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The Canadian Journal of Medicine and Surgery

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Vol. XXVI.

TORONTO, JULY, 1909.

No. 1

Original Contributions.

THE SURGICAL TREATMENT OF STONE, TUBERCULOSIS AND TUMORS OF THE KIDNEYS*

BY DR. ARTHUR DEAN BEVAN, CHICAGO.

Mr. President and Members of the Toronto Academy of
Medicine:

I desire to express my appreciation of this opportunity to meet the members of the Toronto profession. I consider it a great honor to be invited to present to you a paper on some surgical topic. We in the United States have the highest regard and greatest respect for the medical profession of Canada. We have watched the splendid development of your medical schools and hospitals and your sound medical legislation with great interest, and congratulate you upon the good work of your medical institutions, and upon the achievements of your medical men. The medical professions of Canada and the United States are very closely associated, and have many things in common. They are certainly as closely associated as those of Germany and Austria, and should have, as those countries do have, their special societies open to men from both countries.

This desirable state of affairs is being gradually brought about. As an example let me say that in our American Surgical Association we are gradually securing about as many Canadian members in proportion to the population as members from the United States. I hope to see the time when without any diminution in the proper pride and patriotism which each one of us has for his own country, we shall all be members of a greater Ameri-

*Read before the Academy of Medicine, December 1, 1908.

can Medical Association, which shall extend from our Panama Canal to your Hudson Bay.

I have chosen for the topic of my address the subject: "The Surgical Treatment of Stone, Tuberculosis and Tumors of the Kidney." I have associated these three conditions together in a paper, because I have found that in actual practice these conditions have frequently so many symptoms in common that the surgeon sees a large group of cases in which he is compelled to answer the question, Is this stone, tuberculosis or tumor of the kidney? Any one of these lesions may present kidney colic, hematuria and an enlargement of the kidney and more or less pronounced bladder symptoms. I shall attempt to present to you briefly the diagnosis and surgical treatment of each of these three kidney lesions, based on an analysis of 94 cases operated upon in my surgical clinic at Rush College, University of Chicago.

Let me first remind you that the surgery of the kidney is a very new chapter in the subject of surgery. Those of us who began the study of medicine twenty-five years ago have had the opportunity of watching its development almost from the beginning. When we were medical students, we saw no kidney operations. The old English physician who began his lectures on diseases of the kidney with the statement that here was a field safe from the surgeon's knife, was still with us.

The development of the surgery of the kidney within twenty-five years has been marvelous. Movable kidneys are now fixed by proper operation. Stones in the kidneys are definitely located by the X-ray, and safely removed by incision. Tuberculosis is by means of microscope and cystoscope accurately diagnosed, and the patient's life saved by a timely nephrectomy. Tumors of the kidney are recognized and removed. Acute hematogenous infections of the kidney which threaten life are recognized, and met by a nephrectomy. Hydronephrosis and pyonephrosis are handled either by drainage or plastic operations or, where the other kidney is sound and sufficient, by removal of the diseased organ. Even chronic Bright's disease has not escaped the surgeon's attacks, and one of our brilliant gynecologists proposed on the basis of his observations of the effect upon the kidney of decapsulation in the operation of kidney fixation, the operation of decapsulation as a means of treating successfully Bright's disease. As might have been logically surmised, however, this has failed to meet the hopes of the enthusiasts who proposed and carried it out. The surgical treatment of many of the diseases of the kidney is most gratifying. To-day the kidney is not safe from, but the patient is often saved by, the surgeon's knife.

Let me present to you first the subject of kidney stone.

Not until 1880 was a stone removed by incision through the

tissue of a fairly normal kidney; this was done by Henry Morris, of England. From 1880 until 1897 or 1898, a number of operators followed Morris' lead and, in 1898, Morris could report thirty-four nephrolithotomies with fortunately but one death. The work done from 1880-1898 was brilliant, in a way, but was unsatisfactory because of the uncertainties of diagnosis. During this period a large proportion of the operations were exploratory, and many of the operations undertaken for stone proved to be for tuberculosis, neoplasia and other pathological conditions.

In the last ten years, that is the period from 1898 to 1908, there has been a great development in the surgery of the kidney, thanks to the introduction of the X-ray and means of collecting the urines separately, and other refined means of diagnosis, cryoscopy, etc. Of these, the X-ray has been by far the most important.

These newer means of diagnosis have resulted in an enormous increase in the number of cases discovered and operated upon and, with better technique, there has been an increasing percentage of recoveries and of complete and permanent cures.

The ordinary picture of kidney-stone is that of kidney colic of greater or less frequency, with pain in kidney region, and radiating from this region; blood usually microscopic, sometimes, however, in large amount in urine, and pus, with not infrequent bladder symptoms due to a resulting or accompanying cystitis.

The differential diagnosis must be made between stone and tuberculosis and neoplasms of the kidney, kidney infections and displacements, and such rarer conditions as essential kidney hemorrhage and polycystic degeneration of the kidney, and various lesions of other organs, as gall-stone disease, appendicitis and ileus. Sometimes it is by no means easy to make the differential diagnosis without an exhaustive study. I have seen appendicitis produce the typical picture of kidney colic, accompanied even by a considerable amount of blood in the urine. I have four times removed the appendix in the interval on the strength of the diagnosis made by well-qualified men, who had taken care of the patients during the attacks, and found later that the trouble was not appendicitis but kidney stone.

A careful analysis of the gross clinical picture is of the greatest importance in making a diagnosis.

1. History. A careful history of the onset, character and duration of attacks may often be of great value in making a probable diagnosis.

2. Pain in some degree occurs in practically all calculus cases, giving rise to symptoms. Pain is, however, a frequent accompaniment of non-calculous diseases of the kidney. That nephrolithiasis may exist without pain is shown by the report by

Clark of twenty-four autopsies on calculus cases, thirteen of whom have had no pain.

The size of the stone has no definite relation to the character or amount of pain. Large calculi occupying the pelvis of the kidney may give little or no pain. On the other hand small rough stones that make their way into the ureter may cause the most agonizing pain.

3. Hematuria. The amount of blood in the urine may vary from a few corpuscles, found by microscopic examination of the centrifuged specimen obtained during or after an attack, to large and even fatal hemorrhages.

Hematuria, especially occurring in microscopic amounts during or after an attack of renal colic, is a finding of considerable importance in establishing a diagnosis.

4. Other urine findings, such as renal sand, crystals, small calculi, fragments of calculi, renal or ureteral epithelium, leucocytes often seen in clumps, macroscopic pus, are findings of importance. Cunningham found pus 39 times in 48 cases reported.

5. Vesical tenesmus or rectal tenesmus is frequently felt when a stone is moving in the lower portion of the ureter, cystitis frequently accompanies the pyelitis and ureteritis set up by a stone in the pelvis of the kidney or in the ureter, and gives rise to frequency of micturition. Occasionally, a stone in the lower portion of the ureter can be palpated per rectum, or per vaginam in the female.

Next to the gross clinical picture must be considered: (a) Cystoscopy and ureteral catheterization. Cystoscopy may be of great value in calculus cases. A stone impacted in the ureteral orifice may be seen protruding or causing prolapse, widening, or edema of the ureteral orifice, and a ureteral bougie passed into the ureter may give definite evidence of obstruction.

Examination of the ureteral orifice will often show from which side the blood or pus is coming, and catheterization of the ureters enables one to obtain the separated urines and examine them for blood, pus, bacteria, epithelium, etc., as well as to determine the functional capacity of the two kidneys.

(b) Functional tests. The following should be mentioned: The indigocarmine test made by injecting 5 to 10 c.c. of sterile indigocarmine solution into the gluteal muscles, introducing the cystoscope twenty minutes after the injection, and observing the rhythmical puffs of deep blue colored urine as it escapes from the ureter. By some observers the time required for the blue color to appear in the urine and the intensity of the color are regarded as being of value in determining functional capacity.

The phloridzin test, described by Casper and Richter, depends

upon the fact that when phloridzin is injected subcutaneously, glycosuria appears in 15 to 30 minutes in a healthy condition of the kidneys and continues from one to three hours. The test is made by injecting subcutaneously 1 c.c. of a sterile 1 per cent. solution of phloridzin and testing the urine for sugar at intervals of five minutes by Fehling's or Haine's solution.

(c) Cryoscopy, described by Koranyi, and recommended and much employed by Kummel, Teakin and others, consists in the determination of the molecular concentration of the blood serum and urine by measuring the freezing-points of the blood and urine. It depends upon the fact that in health the blood maintains a definite degree of molecular concentration, and has a practically constant freezing point, 0.55 to 0.57 deg. The excreting power of the kidneys is the most important factor in maintaining the constant molecular concentration of the blood. In conditions in which the renal parenchyma is damaged and the power of excretion lessened, the molecular concentration of the blood increases, on account of the accumulation of salts in the blood, and the freezing point is lowered to 0.60 deg., or lower. Cryoscopy of the blood seems to give us definite and valuable information as to the total renal functional power. It does not give us any information as to the relative capacity of the two kidneys. Cryoscopy of the urine seems to be of little practical value, not more than a determination of the specific gravity.

ROENTGEN EXAMINATION.

The introduction of the Roentgen rays as a means of diagnosis marks the most important advance made in the surgery of renal and ureteral calculi in modern times. The present improved technique has rendered this means of diagnosis sufficiently accurate to entitle it to rank with other commonly employed means of diagnosis of generally recognized value, such as the examination of sputum and urine for tubercle bacilli, feces for blood and parasites, etc.

The accuracy of the method depends upon the skill and experience of the operator making the examination and the interpretation of the plate, the efficiency of the apparatus at hand, and the technique employed. The following reports show the percentage of correct diagnosis as reported by the several observers in their own work:

	Cases.	Correct.
Kummel and Rumpel, 1903	18	100 per cent.
Smith and Bevan, 1904.	27	96 "
Leonard, 1907	356	97 "
Brewer, 1908	57	78 "

Since the clinical symptoms give but little information as to the exact location of calculi in the genito-urinary tract, it is desirable to first secure, if possible, a plate showing the region of both kidneys, both ureters, and part of the bladder. For this purpose the patient lies on his back, with head and knees elevated, so as to straighten the spine and bring it in contact with the plate. The tube is enclosed in a heavy lead glass tube shield, and supported upon a stand 26 to 30 inches high, with telescoping sides, permitting a greater elevation, if necessary. The top of the stand carries a circular piece of heavy sheet-lead, with an opening in the centre for diaphragms of various sizes. This heavy lead disk cuts off the stray rays from the walls of the tube and the diaphragm opening limits the rays that are to be used to a cone of approximately parallel rays. A satisfactory plate should have the following characteristics:

1. It should show the lateral processes of the vertebrae to the tip.
2. It should show the structure of the last two ribs.
3. It should show the border of the psoas muscle.

After a satisfactory view has been obtained, if there are any evidences of stone in any particular location, other plates of that portion should be made, using the compression diaphragm apparatus. This method, first introduced by Albers-Schönberg, has the advantage of giving clearer and more definite pictures of a limited area, owing to the fact that the diaphragm renders the rays more nearly parallel, the lead cylinder and shield cut off many stray rays, and the compression can be made so as to considerably diminish the amount of tissue to be penetrated by the rays.

The cases of ureteral calculus present some peculiar difficulties that make the diagnosis more difficult than the diagnosis of calculi in the pelvis or parenchyma of the kidney.

In the course of the lower portion of the ureter, shadows are frequently seen that have, in several instances, been mistaken for ureteral calculi, and operations have been performed under the mistaken diagnosis so made, with the result that nothing was found in the ureter but some other condition was present which sufficed to explain the occurrence of the shadows in the Röntgen plates. Among the extra-ureteral conditions giving rise to misleading shadows in the plates, may be mentioned:

1. Phleboliths or calcified areas in the walls of the veins in the pelvis.
2. Foreign bodies in the bowel, vagina, or bladder.
3. Calcified appendices epiploicae.
4. Calcified tuberculous lymph-nodes or tuberculous nodules in the epididymis or seminal vesicles that have become partly calcified.

5. Calcified or osseous areas in the pelvic ligaments. In examining 100 plates of adult pelvis taken for various conditions, it was found that in 25 per cent. of the plates small round shadows, varying in size from a BB shot to a pea, occur in the vicinity of the spine of the ischium, frequently bilateral and often multiple. They do not occur in the plates of the pelvis of children. The peculiar location of these bodies and their frequent occurrence in both male and female pelvis, renders their explanation as ossified areas in the pelvic ligaments most probable.

When a definite diagnosis of stone is made and the size and position of the calculus are known I am in favor of surgical removal, except in cases where there is a strong contra-indication on account of age or organic disease, or where the stone is so small that it may be passed by the ureter, bladder, and urethra.

I have had an opportunity of watching a number of cases handled expectantly, and have seen so many serious consequences, such as attacks of anuria and infection and colic, occur, and injury to the kidney tissue result, that I am satisfied that the dangers of operation are not as great as the dangers carried by the continuance of the condition; and the operation has the great additional advantage of curing the patient, which the expectant treatment seldom does.

To be sure, I have seen a number of cases recover without operation. I recall one in particular—a big, strong fellow, who had a stone a little larger than a coffee bean. We obtained, after a number of exposures, several very good plates confirming the diagnosis. When I first took charge of the patient I recommended temporarily expectant treatment. The colics recurred, however, and the stone did not pass, so I advised surgical removal. He could not bring himself to an operation, and for several years suffered from very severe and frequent colics, and had several attacks of serious temporary anuria. He suffered more in any one of a dozen attacks than he would from an operation, and certainly ran more risk from his anuria attacks than he would have from surgical interference, but he finally passed his stone and rejoiced that he had escaped an operation. It is upon such weak evidence as this that many of the pleas of non-interference are based. Against this man, who was practically invalidated for several years and suffered very greatly, I could place a dozen men who were operated on during this same period, who had less pain from the operation than from an attack of colic, and left the hospital within two weeks perfectly cured.

There are some conditions which demand immediate action, as calculous anuria, infection, etc., where there can be no question about the propriety of surgical intervention. I would plead for the adoption of surgical removal of kidney-stone, not only in

these, but in all cases in which the diagnosis is made, and the earlier the better, with the exceptions already noted, namely, the cases of extreme age and other organic disease making operation extremely dangerous, and the cases with very small stones, which should be given a reasonable time with the hope that they may be passed.

One very strong argument in favor of removing kidney-stones, where they are not producing urgent symptoms, is that of preventing the occurrence of urgent symptoms by removing the stone which, if left, might cause them; and, again, it is perfectly clear that in almost all cases the kidney containing a stone suffers continually from its presence, a more or less chronic change takes place, with impairment of the secreting value of the organ, often leading to total destruction of the kidney tissue. After a definite diagnosis of kidney-stone is made with the X-ray, other conditions warranting, it should be removed.

Where the X-ray shows that there is a single small stone, as there is in the majority of cases, and the clinical evidence does not suggest destructive processes in the kidney, I do not employ the cystoscope or ureteral catheter, or make a cryoscopic examination, but proceed at once to the operation. Where the X-ray shows a large stone or mass of stones, and the clinical history and the pus and blood in the urine suggest the possibility of the necessity of a nephrectomy, an exhaustive study of kidney sufficiency must be made, and the absence or presence and condition of the other kidney determined. This can best be done by collecting the urines separately by ureteral catheters and by a cryoscopic examination of the blood.

I am not one of those who believe in the entire harmlessness of ureteral catheterization. I regard it as a possible cause of danger, and as a means of diagnosis which should be employed only where definitely required, and not as a routine procedure. It is, however, frequently indispensable. The cryoscopic examination of the urine I regard as of little value. I believe, however, that under certain conditions the cryoscopic examination of the blood is of distinct value, as already stated. In a case where there is considerable blood in the urine, a normal blood freezing-point, i.e., 0.55 to 0.57 deg., means kidney sufficiency, and almost certainly the involvement of but one kidney in the diseased process.

Given, therefore, a stone case where the X-ray has located the disease and where the ureteral catheter has demonstrated the presence of another kidney, and with a normal freezing-point of the blood, a nephrectomy can safely be made, if the conditions of the affected kidney, as determined by the operation, demand it. In operating on kidney-stone cases the great frequency of

stone occurring in both kidneys, probably in 20 per cent. of cases, should constantly be borne in mind. If stone is demonstrated by X-ray in both kidneys it probably would be safer to operate on both sides at the same sitting.

THE TECHNIQUE OF OPERATION.

The removal of a single stone of moderate size from the pelvis of a kidney not greatly injured by the long-continued presence of the stone, and by infection, is, as a rule, a comparatively simple operation.

For several years I have been doing these cases under nitrous oxide anesthesia.

The patient is put on the sound side with a good-sized pad under the flank so as to increase the space between the last rib and the crest of the ileum on the side to be operated on. A special assistant is detailed to hold the limb of the operated side at right angles to the body. I prefer the pad and an assistant to any of the special tables and supports which have been introduced for kidney work.

If the anesthesia is a very prolonged one, and sufficient relaxation cannot be obtained from gas, the sequence of gas and ether is employed. The oblique kidney cut, extending from the last rib where it is crossed by the erector spinae obliquely downward and outward a finger's breadth above the crest of the ileum, is employed. The length of the incision will depend upon the size of the patient and the difficulties of the case. The fat capsule is exposed and carefully separated from the kidney so that the kidney may be lifted well up into the wound and freely palpated.

If the single stone is found in the pelvis, the kidney is so held as to expose the posterior surface of the pelvis, and this is freed from fat and areolar tissue with blunt dissecting forceps. The pelvis is behind the renal vessels, so that these cannot be injured if the posterior wall of the pelvis is opened, except in the event of some unusual distribution of the vessels; it is in order to avoid this, the posterior wall of the pelvis should be cleared of fat and areolar tissue, so that one can see that no vessel is injured in incising the pelvis. An incision is now made through the wall down to the stone and the stone extracted. The incision should then be closed with a single layer of fine catgut sutures introduced like Lembert sutures, the kidney dropped back into position and a cigarette drain carried to the point of closure. The external wound is closed with moderate-sized catgut through the deep muscles, through and through silkworm gut and horse-hair through the skin. The cigarette drain is removed in three or four days; in more than one-half of the cases there will be no leakage of urine. The stitches are removed on the eighth day,

as a rule, and the patient allowed to leave the hospital in from ten to fourteen days.

This operation through the pelvis is known as pyelotomy, and it is the operation of choice in moderate sized, single stones in the pelvis in non-suppurative cases.

For a long time it was taught that urinary fistulae were much more apt to result in cases in which the stone was removed through an incision in the pelvis than where it was removed through an incision in the kidney substance. My work of the last five years has distinctly disproved this view and my results have been confirmed by a number of other operators.

To-day, I think we can confidently select pyelotomy in preference to nephrotomy as being the safer, less bloody, and more satisfactory procedure.

Where, on the other hand, we have a large branched stone, coral-shaped stones, multiple stones, and stones accompanied by distinct and gross evidence of infection, then nephrotomy should be preferred to pyelotomy.

In nephrolithotomy the kidney should be well freed and brought out of the wound; a well-instructed assistant should compress the renal vessels with his fingers, so as to control hemorrhage. Especially constructed clamps may be employed for this purpose. I have always preferred an assistant.

An incision like the post-mortem cut is made about a half inch posterior to the convex border of the kidney and directed toward the pelvis. This may be from two to five inches or more in length. If the assistant making pressure on the renal vessels does his part thoroughly, little blood will be lost.

The stone, or stones, are now removed with great care not to break them or leave any stone or stone fragment behind. The incision in the kidney is then, when there is no gross evidence of pus, completely closed by catgut sutures, deeply placed and carefully tied so as not to cut through the tissue, which is quite friable. These sutures control the hemorrhage surprisingly well, and it is seldom necessary to ligate a vessel separately. The kidney is now dropped back into its normal position, a cigarette drain introduced and the wound closed as before.

When there is gross evidence of pus in the kidney, it is important to determine before operation the presence and condition of the other kidney and the kidney sufficiency of the individual, so that if at operation the conditions found argue in favor of nephrectomy, this may be undertaken with a full knowledge of the existing facts.

In case a stone is removed from a kidney with gross evidence of pus and impaired kidney tissue, if the impairment is not great, the kidney can be drained after the removal of the stones in the

hope that a cure may result with the saving of a kidney of more or less value. On the other hand, where the kidney shows great changes, and it is evident that the kidney is of little value to the individual, and if left may be a menace, and if kidney sufficiency exists as shown by examination before operation, then a nephrectomy should be done.

In the last few years I have been removing more of these old stone kidneys at the primary operation, avoiding often a later difficult and dangerous secondary nephrectomy. It has been especially in this matter that my own work has shown improvement. In the surgery of kidney-stone it is not sufficient merely to remove the stone. We must cure our patient and, where possible, it is far better to do this with a single operation. I have found nephrectomy secondary to nephrolithotomy and nephrotomy for drainage often most difficult and hazardous; the kidney remnant being often bound down in dense connective tissue, making removal, except by morcelllement and within the capsule, impossible; and even then I have injured the colon and duodenum and had serious and fatal hemorrhage in these cases.

TUBERCULOSIS OF THE KIDNEY.

During the last fifteen years much light has been thrown upon the subject of kidney tuberculosis. Up to that time kidney tuberculosis was regarded as a rare lesion; as one which was difficult to diagnose, and as one which was not modified by treatment and which terminated in a fatal issue. To-day it is known that kidney tuberculosis is a common disease and means have been found which makes it possible to diagnose the condition early and surgical treatment has been shown to be capable of saving the majority of patients.

Tuberculosis of the kidney is frequent. In a series of more than 5,000 post mortems 3 per cent. were found to have tuberculous lesions of the kidney, and of a large series of post mortems of individuals dying of tuberculosis 10 per cent. were found to have tuberculosis of the kidneys.

ETIOLOGY.

Tuberculosis of the kidney is the result of hematogenous infection. It is probably almost always deuteropathic and seldom if ever protopathic. This is true even in the cases where the clinical evidence and after history warrant the diagnosis of primary kidney tuberculosis. In other words primary kidney tuberculosis is seldom, if ever, protopathic in the sense that it is actually the first, the primary lesion, but it is always deuteropathic in the sense that it is secondary to some small unrecognized primary lesion elsewhere, usually in a lymph gland.

Kidney tuberculosis is in 90 per cent. or more of the cases at first unilateral and limited to the kidney tissue of a single kidney. The clinical evidence on this point is now very definite and convincing. There is an apparent but not a real difference between the clinical evidence and the autopsy findings on this point. Post mortem examinations show a majority of cases with bilateral involvement and at the same time other gross and important tuberculous lesions.

The refined, modern means of diagnosis and the exploratory operations and the nephrectomies undertaken for tuberculosis of the kidney show that 90 per cent. or more of the cases are unilateral. The conclusion is evident that tuberculosis of the kidney is as a rule at first unilateral, that later the disease extends and involves other organs and the other kidney, so that in the fatal cases both kidneys are usually involved. The tubercle bacilli are brought to the kidney by the blood stream, and according to the location and character of the resulting lesions three different types are found. First is the cavernous type, the type where either in the upper or lower pole several good-sized foci develop between the capsule and the cavity of the kidney, at first not involving either the fibrous capsule or the mucous membrane lining the calyces or pelvis. These lesions break down and form tuberculous cavities varying in size from a pea to an English walnut. Later these cavities break into the calyces and pelvis and invade these structures or at times break through the fibrous capsule and produce perinephritic processes.

The second type, the disseminate tuberculosis, is one in which throughout the kidney there appears a multitude of lesions of small size. This type resembles the acute hematogenous pyogenic infection of a single kidney. The third appears as an ulcerating lesion of the tip of the pyramids.

All three of these forms may appear in the same case or varying combinations of the three may occur. Tuberculosis of the kidney sooner or later extends to the ureter and bladder. In this connection a word on the general subject of the so-called genito-urinary tuberculosis might be of service.

We now know that there should be a distinct line drawn between genital and urinary tuberculosis. Urinary tuberculosis begins always in the kidney and then later descends into the ureter and invades the bladder. In the male, genital tuberculosis begins usually in the epididymis, occasionally in the prostate, follows the flow of the excretions and later invades the vas deferens and seminal vesicles, prostate and bladder.

In the female, genital tuberculosis begins in the tubes and invades peritoneum and uterus and ovary, but does not extend to the bladder. Both experimental and clinical evidence seems to

show conclusively that the extension of the tuberculous process in urinary and genital tuberculosis is with the stream or excretion; that is, from the kidney to the bladder, and from the epididymis to the prostate and bladder. It is probable that the reverse does not occur, i.e., ascending infections from epididymis to bladder, and then from bladder to kidney, as was formerly generally believed. Where these extensive pictures occur they are to be interpreted as evidences of several coincidental infections or as cases of widespread general infection.

In the few early cases where both the urinary and genital organs are involved, as for instance a single kidney and one epididymis, these are to be regarded as two independent foci, just as the occurrence of bone and joint tuberculosis in one ankle and in one hip. In fact, there is a very close parallel between tuberculosis of bones and joints and tuberculosis of the urinary and genital organs. Both are hematogenous infections, both deuteropathic and secondary usually to an obscure lymphatic lesion. We are now well acquainted with hip tuberculosis, and recognize it as a unilateral lesion, and regard bilateral hip disease as a rarity. Why should we doubt when we are told that kidney tuberculosis is also a unilateral disease? Why should it be bilateral?

Statistics vary as to the relative frequency of the disease in men and women. The evidence would seem to point to the fact that clinically it is recognized more frequently in women than in men, but that by post mortem it is found more frequently in the male. Statistics vary also as to the frequency of involvement of the two kidneys, right and left.

Some evidence seems to point to a greater frequency on the right side, this being in keeping with infections of the kidneys in general, and the explanation that the right kidney is more often movable and possibly more subject to injury and interference with its blood supply because of this greater movability is submitted. The difference is probably not sufficient to be important, however. Kuster found in 352 cases of unilateral kidney tuberculosis 189 in the right and 163 in the left kidney.

Gonorrhea and other pyogenic infections of the urinary organs are important etiologic factors; this fact seems clearly established; the probable explanation is that these acute infections injure the structures, lower the vitality and favor the localization of the tubercle bacilli.

I have in several cases found the combination of stone and tuberculosis in the same kidney. There are two types of this picture, one with primary stone and tuberculosis. Here it is probable that the stone favors the localization of the tuberculous process and second secondary stone and tuberculosis; here it is probable that the tuberculosis precedes and that the secondary stone is the result of a mixed infection present.

What is the natural history of kidney tuberculosis uninterfered with by treatment? A tuberculous process developing in a kidney might go on to spontaneous cure as occurs in other organs and tissues of the body, the foci becoming encapsulated by a firm wall of connective tissue; the focus eventually being replaced by scar tissue or undergoing calcification. Although this is possible it would seem as though this was an extremely rare termination. The autopsy and clinical evidence seem to point to the fact that the process extends and involves eventually the entire kidney. This may occur and the lesion run a silent course with complete destruction of the kidney tissue and a spontaneous cure result, the kidney being changed to a mass of caseous material surrounded by a dense fibrous capsule; or the place of the kidney tissue may be largely taken by a mass of chronically inflamed fatty tissue. In such a case the patient is in much the same position as a patient who has a tuberculous kidney removed by operation; the diseased kidney being completely destroyed, and so encapsulated as to be rendered comparatively innocuous. Such spontaneous cures are rare, and form a small per cent of the total cases. The usual course is the extension of the process to the pelvis, ureter and bladder, or to the perinephritic tissues. The gradual weakening of the patient, with sooner or later widespread tuberculosis, with, in the majority of the cases, involvement of both kidneys and death.

SYMPTOMS.

Kidney tuberculosis is symptomless until the process has extended to the calyces, or pelvis, or to the perinephritic tissues.

The earliest and most important symptoms are frequency of urination and turbid urine; a cystitis, which is not clearly gonorrheal or due to instrumentation, should suggest the possibility of tuberculosis of the kidney and urinary tract, and lead to the exhaustive examination of the urine for tubercle bacilli.

Pain and tenderness in the kidney region may occur or may be absent. These symptoms vary from a mere sense of pain or discomfort in the kidney or above Poupart's ligament to the outspoken picture of kidney colic, simulating kidney colic from stone, and due to the plugging of the ureter with blood or tuberculosis debris. Hematuria occurs in about 25 per cent. of the cases, and may be severe, even fatal, or on the other extreme may be barely macroscopic, or even microscopic in amount.

Pyuria is one of the most constant symptoms of kidney tuberculosis; mixed infection usually due to colon bacilli is common. The urine is usually acid in kidney tuberculosis, but may in mixed infections be alkaline. Increase in the size of the kidney occurs in many cases, especially when there is present a perine-

phritic process. There may, however, be an actual decrease in the size of the organ.

Early diagnosis is of extreme importance in kidney tuberculosis. To-day the broad diagnosis of genito-urinary tuberculosis will not suffice. The diagnosis must determine the original focus, whether one or both kidneys are involved, whether the bladder is involved, and to what extent, and whether there is involvement of other organs, as the lungs, etc., in the tuberculous process.

The differential diagnosis must be made between cystitis, due to other causes and pyelitis due to other infections, and such kidney lesions as kidney stone, neoplasms, polycystic degeneration of the kidneys, essential hematuria and acute and chronic pyelonephritis and pyonephrosis and hydronephrosis, or other etiology. In the majority of cases the patient presents the symptoms, and is treated for a chronic catarrh of the bladder.

Here the diagnosis must be made by the finding of tubercle bacilli in the urine. The finding of tubercle bacilli in the urine is largely a matter of care, patience and proper technique. They can almost always be found in a tuberculous process of the kidney which is giving sufficient symptoms to drive the patient to consult a physician.

A twenty-four hour specimen of urine should be allowed to settle, the sediment should be obtained and centrifuged and properly stained and examined. In order to exclude smegma bacilli the specimen should be obtained with catheter and destained with acid alcohol. A single negative examination should not be accepted. If necessary half a dozen specimens should be examined. If tubercle bacilli are found a cystoscopic examination of the bladder should be made, and the question of bladder and ureter involvement determined. The process when it has involved the ureter gives often a characteristic picture in the cystoscopic examination, redness and swelling of the mouth of the ureter on the affected side with sechymoses, tubercles and ulceration.

After definitely determining the existence of a tuberculous lesion of the kidney in this way, it becomes necessary to determine the existence and the condition of a second kidney; this can best be done by catheterizing the ureters, collecting and examining separately the right and left urines. In addition to this, where surgical treatment is considered, a cryoscopic examination of the blood is made to determine the question of kidney sufficiency. If it is normal, 55-57, or even up to 59, a nephrectomy may be safely undertaken.

Calculus pyelitis often gives the same general clinical picture as tuberculosis of the kidney. The differentiation can be

made, as already stated, by an X-ray examination. The negative evidence of X-ray plates of the kidney region, which possess proper definition, can be relied upon, and in this way calculous disease may be excluded.

Neoplasms of the kidney, especially the common form of neoplasm in the adult, i.e.: Hypernephroma, gives the symptom complex of pain and tenderness, hematuria and palpable enlargement, but lacks the turbid urine, frequency of urination and cystoscopic picture of tuberculosis. Pyelitis and pyonephrosis from pus infections must be differentiated by the examination of the urine for tubercle bacilli. In polycystic disease with hematuria both kidneys are usually palpably enlarged and no tubercle bacilli are found.

In the now small proportion of cases in which tubercle bacilli are not found in the urine, but where the clinical picture strongly suggests tuberculosis, animal inoculation may be employed or the tuberculin test resorted to.

TREATMENT.

One reads the average text-book of medicine in vain for a satisfactory description of kidney tuberculosis. The subject is usually discussed in a short paragraph in the general chapter on tuberculosis, and is not mentioned at all in the chapters on diseases of the kidney. This fact may in part explain the woeful ignorance of the general practitioner on this subject. He has not had the subject properly presented to him. This fault should be corrected. Means must be found to instruct the family physicians, that tuberculosis of the kidney is a common disease, that by proper methods the diagnosis can be made early, and what is of the greatest importance, that the majority of the cases early diagnosed can be cured.

It is very important to have this done, because the family physician sees and treats these cases in their early stage, and frequently throughout their course, and as a rule without recognizing the condition.

Three methods of treatment have been advocated:

1st. The general hygienic treatment, which is employed in lung tuberculosis.

2nd. The specific treatment with tuberculin.

3rd. The surgical treatment.

Before discussing the treatment let me again remind you of the fact, that spontaneous cure of kidney tuberculosis is probably rare, and that the cases in which a cure has apparently occurred are, as a rule, cases of unilateral kidney tuberculosis with complete destruction of the kidney and occlusion of the ureter with resulting cessation of symptoms.

1st. General hygienic treatment is of great importance, as in all cases of tuberculosis. Fresh air, proper nutrition and rest are of much value, and should always be insisted upon. Cures occur under such treatment, but as already stated, they are rare, and, as a rule, are brought about only after the total destruction of the single kidney involved. In the light of our present knowledge we are not warranted in depending upon hygienic treatment alone.

2nd. The specific treatment with tuberculin is at present on trial, especially as advocated by Wright in very small doses, and controlled by determining the opsonic index. Wright and some of his followers are enthusiastic in their claims of this treatment in urinary tuberculosis.

It goes without saying, that the entire medical world will welcome with open arms and adopt with enthusiasm this treatment as soon as its value is demonstrated. Has its value been demonstrated? I am afraid not. In surgical tuberculosis in general, as gland, bone and joint and skin tuberculosis, has it supplanted other methods of treatment? Unfortunately, no. A few cases of urinary tuberculosis have apparently recovered under this treatment, but side by side with these can be placed a much larger number of cases which have apparently recovered without any or with simple hygienic treatment. Unfortunately, for the present, I think the unbiased observer must conclude that the specific method of treatment is still experimental, and is not to be relied upon to the exclusion of other methods.

3rd. The surgical treatment.

We owe our present knowledge of tuberculosis of the kidney not to the internist, who does not have the opportunity of seeing the diseased kidney, nor to the pathologist, who sees the tuberculous kidney in the dead, but to the general surgeons and the surgical specialists, who have had the opportunity of examining the tuberculous kidney and ureter and bladder in the living, and who have been able to follow these cases and watch the results of the various operations, which have been undertaken for the cure of the disease.

It is to these men we must go for the literature on kidney tuberculosis: Albnaun, Tuffier, Israel, Kummel, Gaire, Kapsammer, Willy Meyer, Walker, Morris and others.

Among these we find a fairly unanimous agreement that kidney tuberculosis is a hematogenous infection, that it is early unilateral, that when it is early diagnosed it can be cured by the removal of the focus of disease, i.e., by a nephrectomy.

The nephrotomies and drainage, which were in the early development of this work undertaken, effected few if any cures, and as a result nephrotomy for kidney tuberculosis has been abandoned, except as a preliminary operation in cases of mixed infec-

tion. Where the condition of the patient does not permit of an immediate nephrectomy, resection of the portion of the kidney grossly involved has also been abandoned because the operation gave few cures, and because a careful study of the pathological anatomy shows that there are so many foci, as a rule, that resection offers little hope of cure.

Primary nephrectomy for early unilateral kidney tuberculosis can be done with less than 10 per cent. of mortality. In Kummel's last series, 69 cases, the mortality was but 27, and with the prospect of curing about 80 per cent. of the cases. An interesting and important fact in connection with these operations is that the limited bladder tuberculosis, which is so constant in these cases is, as a rule, gradually fully recovered from after the removal of the primary focus, i.e., the kidney.

In the light of our present knowledge then we must conclude that in unilateral renal tuberculosis, early nephrectomy is the best treatment. This should be combined with the well recognized hygienic treatment of tuberculosis.

In bilateral renal tuberculosis the treatment should be the hygienic treatment plus possibly the specific treatment with tuberculin until, at least, its value has been proven or disproven, and where especially indicated such palliative surgical measures as nephrotomy and drainage.

It is our duty to make known to every medical man these well established facts in regard to kidney tuberculosis.

NEOPLASMS OF THE KIDNEY.

The classification of kidney tumors is by no means generally agreed upon. Many tumors which were some years ago classified as sarcomas and carcinomas are now recognized as hypernephromas. As an example Morris several years ago in analyzing 122 cases of tumors of the kidney found:

Sarcomas	63
Carcinomas	41
Adenomas	10
Papillomas	3
Myomas	2
Lipomas	2
Dermoid cysts	1

122

And as you note he does not report a single case of hypernephromas.

On the other hand Albrecht recently reporting the malignant

tumors from Hochenegg Clinic during the last ten years found 32 cases, and of these 28 were hypernephromas, 3 sarcomas and one a carcinoma of the pelvis of the kidney.

Neuhauser has recently reported on 103 cases of renal neoplasms from the Israel Clinic and found 69 of these were hypernephromas. The reason for these great differences in statistics is found in the fact, that the Grawitz tumor or hypernephroma was not recognized until 1883, and for many years was regarded as a rarity. We have gradually learned, however, that most of the malignant tumors of the adult reported formerly as carcinomas or sarcomas are found on careful histologic study to be hypernephromas.

My own experience with kidney tumors agrees perfectly with that of the Hochenegg Clinic. Of nineteen cases operated on in my clinic, exclusive of cases of polycystic degeneration of the kidneys, fourteen have been hypernephromas in adults, four mixed sarcomas in children and one a single large cyst in an infant. In other words every case of malignant tumor of the kidney in the adult in my clinic has been hypernephroma, and the tumors in children have been (with one exception the simple cyst) the rapidly growing mixed sarcomas peculiar to infancy. Fifteen years ago I had the opportunity of studying under Birch Hirschfeld, and became somewhat familiar with the class of kidney tumors for which he coined the name hypernephroma, and have been ever since on the look-out for them.

I am personally quite convinced from my own study and clinical experience that the common malignant tumor of the kidney in the adult is the hypernephroma, and that true carcinomas outside of the cases of carcinoma beginning in the renal pelvis are extremely rare. I think sarcomas of the kidney in the adult are also extremely rare. On the other hand the large rapidly growing tumors of the kidney in the infant or young child are best classified as mixed sarcomas. In children the diagnosis of kidney tumor is, as a rule, not made until the tumor is palpable. The only treatment to consider is an early nephrectomy. My own experience has been that the cases have not been diagnosed sufficiently early to secure a permanent cure by nephrectomy, as all the cases I have operated on or seen in the hands of my colleagues have succumbed either to the operation or to a rapid recurrence.

In the adult, the common malignant kidney tumor, the hypernephroma, runs rather a slow course. The primary lesion may never be diagnosed until metastases occur, which on histologic examination shows the characteristic hypernephroma tissue. The common symptom is that of hemorrhage. Israel found this in 80 per cent. of his cases. Hematuria has been present at some time in almost all of my cases. The presence of a kidney swelling is

sooner or later to be made out in all but the exceptional cases. Pain and discomfort are present in a considerable proportion of the cases, in my series in about 40 per cent.

In some cases violent renal colic attacks occur, due to plugging up of the ureter with a blood clot, and in several cases severe pain in bladder and urethra, due to blood clots in the bladder and efforts to pass them per urethram. In a few cases fragments of tumor tissue are passed in the urine and the diagnosis made from a histological examination of these fragments. In one of my cases the patient passed blood in the stools, and a careful examination showed pieces of tumor tissue, which on examination proved to be hypernephroma. In this case the post-mortem showed that the tumor had involved and grown into the descending colon.

One symptom of malignant disease is noteworthy, rather from its absence or late appearance than from its presence, and this is cachexia. Victims of hypernephroma remain for a surprisingly long time free from cachexia, and present the appearance of fair health, unless reduced by frequent hemorrhages.

A very interesting symptom which has occurred twice in my series has been rapidly developing varicocele, one on the left and one on the right side. In the case where it occurred on the right side it was the first symptom noted, and led to a careful examination of the right kidney, and the discovery of a tumor. These varicoceles are peculiar in that they do not disappear rapidly or at all when the patient assumes the recumbent position.

Another characteristic of hypernephromas is that they form late metastases, which involve especially the bones. There are now a number of cases where an operation has been done for supposed primary malignant tumor of the bone, which has proven to be a metastatic growth from a hypernephroma.

Another feature, which is soon discovered in operating on a series of these cases is the tendency for the tumor to grow into the renal vein and to extend through the venous circulation; lymphatic extension does occur, but it is rare.

In spite of the slow growth and late tendency to metastases the prognosis after operation is extremely bad as shown well by the report from the Hochenegg Clinic. Here of twenty-four cases of hypernephroma operated on only one was alive and well four years after operation. My own results have been but little more encouraging. Of fourteen nephrectomies I had but a single death from operation. One patient lived six years and then died from recurrence. Two patients are alive and well three years after operation.

The operative technique in these cases has varied with different operators, some advocating the abdominal, others the lumbar

extraperitoneal route. I have personally employed both methods, but have of late years employed the lumbar extraperitoneal route almost to the exclusion of the abdominal incision. By making an oblique kidney cut, and where necessary carrying it forward above the crest of the ileum even as far forward as the ant. sup. spine, sufficient room can almost always be secured to remove an operable kidney tumor. Where the tumor is firmly fixed and the lesion has evidently grown into the surrounding tissues, or so invaded the renal vein that the mass cannot be removed without endangering the ascending vena cava, the operation should be made simply exploratory, and the case handled as an inoperable one.

In this connection I want to mention one of the most interesting facts that has developed in our work on hypernephroma.

Three or four years ago I made an exploratory incision on a case which proved to be inoperable on account of the extension to the colon in front and firm fixation to all the surrounding tissues. More as a placebo, and in part as an experiment, we put the patient under X-ray treatment. The kidney tumor, which was on the left side, and as large as a fetal head, melted down under the X-ray within a few weeks, just as a large leukemic spleen will often do. The patient's general condition was not much improved, and he developed a large mass in the epigastric and right hypochondriac region, evidently an extension of the same process, from which he later succumbed.

Some months later I removed a large hypernephroma which had involved the renal vein. The patient made an excellent recovery from the operation, but within a short time there appeared a recurrence deep in the scar. The patient was submitted to the X-ray, and this mass rapidly melted down and disappeared. When last seen, more than a year later, there was no recurrence and the patient was in excellent health.

Last spring I operated upon a class-mate of mine, a physician who came to me first with a right-sided hydrocele which came on suddenly. I found when I first examined him a freely movable tumor of the right kidney. I advised an immediate operation, but he kept putting it off until six months went by, when he finally submitted to operation. I found a large tumor growing over and around the ascending vena cava in such a way that removal was impossible. I made the operation simply an exploratory one, and have since put him under X-ray treatment. The tumor has greatly diminished under the treatment, and for a time he picked up considerably in weight. A recent report, however, tells me that for some time now there has been no further improvement. I offer this possible explanation, that the suprarenal tissue of a hypernephroma is probably peculiarly susceptible to the action of

the X-ray, just as is the tissue of the spleen. I report these results simply for what they are worth, and on the strength of these experiences I would suggest a thorough trial of the X-ray in inoperable hypernephromas, and in cases in which nephrectomy has been done, as a possible insurance against recurrence.

In my own clinic, where we have been so frequently compelled to differentiate between these three kidney lesions which we have just discussed, we have in most cases been able to make the diagnosis before the exploratory operation. In a general way we have been guided by the following simple rules: The patient is submitted to a most careful X-ray examination. If this discloses stone the diagnosis is made. If no stone shadow is found after repeated search, stone can be excluded with a margin of less than 10 per cent. of error.

If no stone is found a most careful examination for tubercle bacilli is made; if these are found the general diagnosis is established. If not, tuberculosis can be excluded with a margin probably of less than 25 per cent. of error, provided the cystoscopic examination of the bladder is negative. In the cases where the X-ray shows no stone, and the examination no evidence of tuberculosis, but where there is blood in the urine and evidence of kidney enlargement, the probable diagnosis is tumor, and to-day in the adult the diagnosis of hypernephroma can be made with a fair degree of probability.

I have thus attempted to present to you a picture of the present status of the surgery of stone, tuberculosis and tumor of the kidney, very different from the one that would have been drawn twenty years ago. Modern surgery can now offer much in the treatment of these diseases. Progress is being made rapidly, and we have reason to hope that the future will add much to that which has already been accomplished.

Diseases of the kidney belong for the most part to that borderland which must be cultivated by both the physician and the surgeon in order to bring forth the best fruit. The physician who handles these cases must keep in close touch with the surgical progress being made. He should follow the case to the operating table, and see for himself in vivo the pathological conditions which are responsible for the symptoms present. The surgeon must understand fully the value and possibilities of medical and hygienic treatment, before he can arrive at a just estimate of the value of surgical procedures.

PRO-PERITONEAL AND OTHER INTERNAL HERNIAE*

BY F. N. G. STARR, M.B.,

Surgeon to the Hospital for Sick Children, Toronto, etc.

It is not my intention in this short paper to go into the whole subject of internal hernia in all its forms, but merely to report three cases that have come under my observation presenting symptoms of intestinal obstruction.

The first was that of a male, aged 40, who was admitted to the General Hospital on December 2nd, 1905, under the care of the late Dr. George A. Peters, with the following history: In the fall of 1904, at Huntsville, the patient had his first attack. It commenced with pain, chiefly in right iliac region, persisted for three days and was very severe. He would neither eat nor drink, had no bowel movement but no vomiting. Enemata relieved the condition.

The second attack was at Waubauskene in April, 1905, quite similar to the previous attack, lasting three days, with pain, loss of appetite, but no vomiting. Again he was relieved by enemata. The condition was thought possibly to have been appendicitis. In each attack, when relief came, it came suddenly.

The third attack, almost a month before admission, lasted four days, with similar symptoms, but with vomiting in addition, although this was not fecal in character. He was treated by Dr. J. A. Harvie, of Coldwater, with enemata and recovered.

The fourth and present attack occurred while patient was working at railway construction on the C. P. R., and commenced similarly to the others but was not relieved by similar treatment. It began on November 28th with pain in the abdomen in the right iliac region, and constipation. He consulted Dr. J. A. Harvie, who gave him a purge and ordered hot applications to abdomen. This was not effectual and next day he began to vomit. The vomited material was white and slimy, but pain was not a marked feature. On November 30th the doctor gave him an enema, which was ineffectual, and on December 1st he started to hiccough; this continued until he entered the hospital on December 2nd. The patient had vomited every day since November 29th, and upon admission the vomited material was brown, fecal in appearance and odor. Enemas were given which brought away some fecal matter, probably from the lower bowel.

Upon examination the patient was seen to be a rugged, well-nourished laborer. There was some distention of the abdomen

* Read at Surgical Section of the Academy of Medicine, Toronto, April 20, 1909.

and the presence of a marked peristaltic wave. There was some slight rigidity of the lower part of the right rectus. There was a tympanitic note over the entire abdomen, except in the region of the bladder, where there was an alteration in the note. The heart sounds were transmitted over the abdomen, but more marked in the upper half.

The facial appearance indicated some serious intra-abdominal condition, though the pulse was 70, and the temperature normal. Hiccupping at times was distressing, but the pain was less severe.

On December 3rd the pain returned, became worse; the vomit was very brown in color, and though the temperature remained normal the pulse became accelerated. Immediate operation was decided upon.

The abdomen was opened in the middle line between the umbilicus and the os pubis. The small bowel in its upper two-thirds was distended, while near the ileo-cecal end it was collapsed. Between these the bowel disappeared into an opening at about the level of the internal ring and between it and the median line. About eighteen inches of ribbon-like anemic gut were drawn out of an intraperitoneal sac, and at once became better in appearance. That part of the bowel that impinged on the rounded edge of the sac looked damaged in its serous coat, but there was no solution of continuity. Upon dissecting out the sac it was found to consist of peritoneum, and was tucked between the parietal peritoneum and fascia transversalis. The margin of the opening was rounded and thick. When dissected out the sac was about three inches long, and the opening in the parietal peritoneum thus left was closed with catgut sutures. The entrance into the sac would appear to have been originally a peritoneal pouch internal to the internal abdominal ring, and the hernia, instead of finding its way into the inguinal canal, pushed the peritoneal pouch out between the parietal peritoneum and the transversalis fascia.

After operation the vomiting ceased and the patient had two bowel movements the following morning. He continued to improve for five days, when on the evening of December 8th, he began to complain of pain in the lower abdomen. Upon examination the abdomen was tense, tympanitic, with absence of liver dullness, and increase of pulse rate from 84 up to 120, together with the abdominal facies. Perforation of the damaged gut was diagnosed and I opened the abdomen through the former incision, wiped out a quantity of fecal matter, and discovered a perforation the size of a split marrow-fat pea in the small bowel, where it had been damaged by pressure on the margin of the hernial opening. The opening was closed with two layers of continuous catgut sutures. The fecal matter was washed out with some saline

solution, and four drainage tubes were inserted in different directions and the wound partly closed.

He was returned to bed in a greatly shocked condition and normal saline per rectum ordered. The pulse continued to fail, and at midnight an interstitial saline was administered, and these were continued every eight hours for the next 32 hours. On the 12th he was somewhat better, and was put up in what is now called the Fowler position for better drainage. Bronchitis developed, and for the next few days he coughed up great quantities of mucus. On the 15th the large drainage tubes were removed and smaller ones inserted. It is unnecessary to relate the further progress of the case more than to mention that he was discharged from the hospital on February 23rd, and started for his home in Quebec.

The second case was that of a boy aged 7, who, upon returning home from a party on the evening of January 4th, 1906, complained of abdominal pain, which was relieved by hot applications. The next evening he was seen by Dr. J. N. Harvie, of Orillia, and though there was some indefinite abdominal pain there was no muscle rigidity, no increase in pulse or temperature and the bowels moved with an enema. The day following there was no increase of pain—more an uncomfortable sensation—but in the evening there was a sudden acceleration of pulse, from 88 to 140 in a few hours. The face took on the appearance so common in peritonitis and the abdomen became distended. When the patient was under the anesthetic—after midnight of that day (really the early morning of January 7th)—I was able to make out a large, sausage-shaped mass extending upward from the right iliac region toward the middle line, and I am free to confess that I thought we had a case of intussusception to deal with. Upon opening the abdomen a large coil of distended, gangrenous, foul-smelling gut appeared in the wound. This had passed through a loop formed by an attachment from the summit of a Meckels' diverticulum to the margin of the mesentery. About fourteen inches of bowel had passed through and then had drawn the diverticulum with it, producing strangulation of the circulation where the diverticulum and bowel was twisted upon itself. The loop was drawn out of the abdomen until the two healthy ends appeared. These were quickly sutured together, and then to the abdominal parietes; the bowel opened and irrigated, and the rest of the opening closed. The child survived only for about twelve hours.

The third case was in a girl of six years whom I saw with Dr. W. L. T. Addison, on March 29th of this year. The history was, that on the evening of March 26th the child complained of not feeling well, and the mother gave it a dose of

castor oil. Soon after there was vomiting. Towards morning there was a slimy evacuation from the bowels and in it a large round worm. On Saturday the girl was better, but towards evening began to be uncomfortable and to complain of pain. A laxative was given without result, and early in the morning of the 28th vomiting commenced. In the afternoon when the doctor saw the case there was severe vomiting, normal temperature, a pulse-rate of about 80, but there was pain and no rigidity. Stomach sedatives were administered, and calomel, but when I saw the case on the following afternoon there had been no bowel movement, though mucus had passed fairly often, and the vomiting continued.

Upon examination there was no rigidity, very little tenderness in the abdomen, but a peristaltic wave could be made out. To the right of the middle line, and about the level of the umbilicus, there was a soft mass with an indefinite outline. It did not feel like bowel within bowel—as in an intussusception—but, as I remarked at the time, it felt like a localized bunch of gut filled with gas. The patient was in a state of marked shock with the eyes sunken and dark circles around them, the pulse rate was 156, and there was only a slight elevation of temperature. Examination per rectum revealed nothing.

Two hours later I opened the abdomen through the right rectus; some distended bowel presented at the opening, and, while it was darker in color than the other portions, there was no evidence of strangulation. Upon delivering this handful of bowel I found it had herniated through a loop on the lower margin of the omentum, and consisted of about two feet of small bowel and a few inches of the caecum and ascending colon. The loop was disposed of, the abdomen closed quickly, and the patient returned to bed. Stimulants were administered, artificial heat applied, and the child made an uninterrupted recovery.

This case will come under the head of incarcerated hernia without strangulation. The first one related showed incarceration with beginning strangulation, while the second one was a complete strangulation.

The confusing feature in the diagnosis of these cases seems to be the gradual onset of symptoms, and yet the secret of success in their treatment is an early diagnosis and early operation.

112 College Street.

DATE STONE IN TRACHEA—LARYNGEAL PARALYSIS— REPORT OF CASES

BY D. J. GIBB WISHART.

Senior Surgeon, Department of Oto-Laryngology, Toronto General Hospital; Late Senior Surgeon,
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Case 1. W.N. Male, aged 4 years. Admitted to the Hospital for Sick Children, Nov. 25th, 1907, with the following history: Two and a half hours since, the patient came into the house from play in the street, screaming, gasping for breath, and cyanosed. Two doctors failed to relieve the distress, and at a hospital to which he was taken, no successful aid was rendered beyond a hypodermic to quieten him. No direct evidence of the cause of the obstruction was obtainable.

The cyanosis and distress were so great when the child entered the Hospital for Sick Children, that the administration of oxygen was at once commenced, and the esophagus was explored by a surgeon without result.

There was marked tracheal tugging, and the usual symptoms of laryngeal obstruction. Without further delay, under general anesthesia, respiration having almost ceased, the trachea was opened, and no relief being obtained by this measure, a pair of curved forceps was introduced afterwards, and the membrane irritated. An expulsive cough followed, and a date stone $\frac{3}{4}$ inches long by $\frac{1}{4}$ inch in diameter was expelled through the wound.

The incision was partially closed by three horse hair sutures, a moist compress adjusted, and the patient placed under a tent with a steam vaporizer. The breathing was distinctly croupy for forty-eight hours, and then the typical rash of scarlatina developed. The wound healed slowly, and the fever ran its usual course, the patient being discharged cured on the thirty-eighth day.

Case 2. F. S. Female, aged 8 years. Contracted laryngeal diphtheria, and entered Isolation Hospital, November 17th, 1907. Was intubated on the 18th. Tube removed on the 23rd. Again intubated on the 26th, and tube removed December 2nd. Discharged cured, December 24th. On the 27th of January following contracted a cold, attended with marked dyspnea. Intubated again, and tube left in place four days. Entered my service in the Hospital for Sick Children on the 6th of February, and on admission the following conditions were present: Face is cyanosed, breath-

ing stertorous, and pupils dilated; patient maintains a position of opisthotonos, and there is marked tracheal tugging, and epigastric indrawing, all the accessory muscles of respiration being energetically in action, reflexes are all sluggish or absent.

An ineffectual attempt was made to insert intubation tubes, those for four years and two years being tried. The patient becoming increasingly cyanosed, a little chloroform was administered, and the trachea rapidly opened, the isthmus of the thyroid requiring to be cut between artery forceps. Respiration being re-established, the vocal cords were examined through the wound from below and found to lie in close apposition. They were then separated by forceps, and an intubation tube, size eight years, introduced from below, and then from above, and left in position. The edges of the tracheal wound were approximated with sutures, but no attempt was made to close the wound superficially, and the patient was placed in a tent-bed with steam. Satisfactory progress was made, the neck wound healed and on the twenty-sixth day, the intubation tube was removed, but in a few hours severe dyspnea again developed. An intubation tube was inserted, but was soon coughed up, but the breathing continuing easy, an antispasmodic was administered, and the steam tent employed. The next fifteen days were marked by dyspnea increased during sleep, but not sufficient to cause alarm. On March 18th, a croupy cough developed, and the dyspnea became so marked that intubation was attempted without success, and unconsciousness supervening, the trachea was again opened, with immediate relief. On the fourteenth day thereafter, the adenoids and tonsils were removed, and this was followed by severe hemorrhage. The patient progressed favorably during the month of April, and on the 5th of May another attempt to intubate was made, three sizes of tube being tried, but on account of spasm insertion was impossible, and the tracheal tube had to be left in place. On the 21st, the chords were found to move more freely, and the tracheotomy tube was plugged daily, the patient breathing comfortably meanwhile. On June 23rd, the larynx was examined by direct laryngoscopy (Killian) and the tracheal tube removed, but as there was still some dyspnea an intubation tube (size six years) was introduced. This tube was removed on several occasions, but required to be reintroduced, but was finally withdrawn on the 14th of July.

Examination on the 6th August showed that the movement of the right vocal chord is weaker than that of the left, the power of phonation is good, but the voice husky, and the pitch cannot be raised. General health good. Patient discharged on the 254th day.

During the whole treatment strychnine was administered regularly in doses varying up to the point of toleration.

The patient did not appear again for about three months, during which time her respirations were notably labored, and the voice hoarse. On examination both chords were deficient in abductive power, and in deep inspiration assumed the cadaveric position. Strychnine was again ordered and the patient permitted to accompany her mother to England.

47 Grosvenor St., May 12, 1909.

School Hygiene.

OPEN AIR SCHOOLS

SPAIN AND AUSTRIA, as well as England and Germany, are now having open air schools. Mr. James Baker, late Commissioner for the Board of Education, in a recent number of the *St. James Gazette* describes an open air school in Spain:

We are all familiar with the fact that these schools exist, and are spreading in England and Germany, but it is not so generally known that perhaps the oldest of them is to be found—where it would be last looked for—in Spain.

The school is situated in the Valle de Paradix, near to Granada, not far from the shores of the Mediterranean. It is the ancient home of the gypsies, and gypsy children are its present scholars. It was started, and is now carried on by Padre Manjon, who is a “padre” in more than its ecclesiastical meaning. It consists mainly of a play-ground, with a church and certain necessary school buildings. “On the walls of the buildings,” writes Mr. Baker, “were great maps, in deep, crude color, of Spain, the World, Europe,” etc. But the playground is the chief and most interesting feature. This can be best described in the words of the writer who has seen it:

“The plan of the playground was entirely novel. I saw a little mound close to a pool of water, where I was standing, and the boys’ quick answer to my question was ‘That is Mount Sinai,’ and the water was ‘The Flood,’ a pillar near was the Tower of Babel. I was in the Scripture part of the playground. The centre of the playground is laid out to represent the dial of a clock. In another part is a skeleton for teaching anatomy; the planetary system is taught with a series of movable balls upon wires, illustrating the solar system. In a shallow tank of water was a raised map of the world, so that the pupils could see the oceans and seas and greatest rivers. Another part was divided into squares of numbers, and we had a lesson in arithmetic given upon these squares. The children were numbers, and they had to exchange or fall out, as they were added, or multiplied, or subtracted, and quick and alert they were to leap to their places.”

During summer the class teaching is carried on in cool caves, of which there are several. In the school building there is a

kitchen where the girls prepare the meals; workrooms, where patching and mending is done, and useful garments made; also a theatre, in which plays of child-life are performed. This is the Central School. But there are several branches, and in all some 1,500 children are being educated in the open air. It seems like a Vale of Paradise in more than the name.

From *Progress* we learn that two new Open Air Schools have been opened in Germany during the present year, one by the Municipality of Elberfeld, and one by that of Lübeck. They have the same objects, and are run on precisely the same lines as those described in previous numbers of *Progress*. There is one special feature about the Elberfeld School that deserves mention, and that is its superb situation. After leaving the outskirts of the city, one ascends for more than an hour by winding paths through thick forests of oak and beech and lime, with forests stretching for miles round as far as the eye can reach, and there on the summit, in an open glade, are the school buildings, with their 100 happy children, rejoicing in new-found health and spirits.

AN AUSTRIAN FOREST SCHOOL.

Last June a start was made at Meuwaldigg, near Vienna, through the efforts of Dr. Weiss, the President of the Goutte de Lait, the necessary buildings being erected at the expense of the Red Cross Society. The Creche Settlement, with its nursery, dormitories, kitchen, etc., and tents to protect from the heat of the sun, is pitched in an open glade in the midst of a vast forest, well sheltered from the wind. The building, constructed on the newest hygienic principles, provides beds for twenty babies. As the number is limited, and as the object of the founders is to do something towards lessening the terrible infant mortality by removing children thus early in life from the vitiated air of the tenement blocks to the pure air of the forest, the selection of those to be admitted is left to the *Fürsorge* and *Säuglingsschutz Verein*. The staff consists of two nurses and two nursing mothers, who in addition to feeding their own children, also feed others when breast-food is considered necessary. When able, the parents pay about 4d. a day.

WHAT IS THE MATTER WITH THE PUBLIC SCHOOLS?

A LITTLE while ago, *The Delineator* was asking the question, "What is the matter with the public schools?" There were a number of suggestions that developed from that investigation. There are a number of things the matter. Out of them all one defect in our educational system stands out glaringly. It is most

tersely told in the last report of the United States Commissioner of Education. It's a simple statement of the salaries that American cities pay their school-teachers.

And that, ladies and gentlemen of the school boards, is what is the matter with our public schools. We pay our unskilled street laborers something like a dollar or a dollar and a quarter a day. We are paying our school-teachers some less and some a little more. It is the wages that a dull brain and a primitive mind are worth. In return for such wages we are requiring a service that should be entrusted only to a mind and heart enriched with all that literature and art and science can contribute to a perfect culture. It should be only such a personality into whose training we give the future citizens of the nation. Can we get personalities like that to serve us in our public schools? Not any longer than they can help it. Just as soon as their force of character and intelligence and initiative enable them to reach a better-paying position, one that will allow them to buy books and hear music and have the other good things of life that their larger natures crave, they go after it.

Until we realize with a conviction that reaches our pocket-books that the school laborer is worthy of her hire, we aren't going to keep the best school laborers in the public employ. And there will continue to be something the matter with the public schools.

Selected Articles.

MEDICAL VERSUS SURGICAL TREATMENT OF AMEBIC DYSENTERY.*

BY JOHN MILTON HOLT, PHIL.B., M.D., BROOKLYN, N.Y.,
Past Assistant-Surgeon United States Public Health and Marine Hospital Surgeon.

In a paper¹ read before this association in 1907, I advocated surgical treatment of all patients with amebic dysentery, in whom, after a fair trial of other forms of treatment, *Amoeba coli* could be found in the stools.

In offering some definite time limit during which these various other methods of treatment could be carefully and impartially exhibited, before classing a case as chronic (and, in my opinion, surgical), I suggested a period of about a year.

In the discussion of the paper, Dr. A. J. MacKenzie, Portland, Ore., expressed the view that I had been too conservative in waiting a year before operating, and suggested that appendicostomy be performed if the disease proved resistant after six months.

The fact that this question is of such vital and practical importance is my justification for presenting another paper on the subject.

Another incident influencing the production of this paper has been the appearance, since last year, of several other articles dealing with different phases of amebic dysentery. The topic may not arouse the lively interest of all, but should a physician consulted in a case of amebic dysentery be unfortunate enough to acquire the disease, the question would then appeal to him very strongly.

At one time I was a victim of this malady, and for five years I have made an exhaustive study of the subject in all its phases. I consider it an obligation, therefore, to record my observations, experiences, and opinions, and leave for time and the majority experience of other workers in the same field to determine the course to be generally adopted for the greatest good to the greatest number. As it is now, too many of these patients are receiving too little serious attention, when their salvation could be worked out at the expense of but a modicum of mental energy.

All observers are agreed as to the marked tendency of amebic

*Read at the Annual Meeting of the Oregon State Medical Association, Portland, Ore., July 2, 1908.

dysentery to resist all ordinary treatment and to become chronic, a fact which renders it all the more imperative for us to devote our best endeavors to the development of a rational, uncompromising plan of attack in dealing with the disease in its chronic form. We should not permit any case to run on indefinitely, because the patient is "doing fairly well," when it could be cleared up at once and for all by simple surgical treatment.

In one of my cases reported last year treatment by colonic irrigation was begun as soon as amebas were demonstrated, or about three weeks after the onset of symptoms. This treatment was continued daily for over a year, except on the day on which microscopic examination was made. Amebas disappeared from time to time, only to return. Undue exertion or ordinary physical fatigue always caused an exaggeration of the symptoms, and a life of semi-invalidism seemed a certainty. During part of that time irrigation was practised twice a day (always once a day), care being taken by change of position to encourage the flow toward the transverse and ascending colon. Several hours were devoted each day to the careful, conscientious employment of the irrigation treatment, with the full hope that recovery would be the reward. Nothing was considered too much trouble. But, while there were periods of improvement, symptomatic improvement—if we can speak of it as such—the parasites persisted, no matter what irrigating solution was employed. Hope began to wane. For a time ice-water irrigations were used, as recommended by J. P. Tuttle. The irrigator was filled with cracked ice and the solution allowed to stand in it for about twenty minutes before using, when as much as five quarts of it would be introduced at one time. As an indication of how cold the solution was, I would say that chipped ice still remained in the irrigator after the entire solution had been passed into the colon, and the hand, held against the abdomen over the transverse colon, could detect the ice-cold temperature of the skin of the abdominal wall, transmitted through all the structures and tissues between the palpating hand and the colon.

The sigmoidoscope was used, and it was seen that no lesions were present below the sigmoid. Operation was decided on in this case after one year, but, owing to family reasons, its employment was not possible until after two years.

Will anyone offer and prove a valid reason for continuing medical treatment indefinitely after an experience of this kind? It should be added, however, that this is not an isolated example, but, unfortunately, is the experience in a large percentage of cases.

Any man who has had both medical and surgical experience with this disease will firmly endorse my line of classification, with the principles of treatment as suggested for the two classes of cases—acute and chronic.

But it is not to those men of the profession to whom I would particularly address myself (except for confirmation and endorsement), but to those who have not given the subject particular study, and to those who have treated all their patients medically.

In the persistent study and presentation of this subject my sole object has been to invite earnest dissent, as well as earnest support, to the end that the best and most practical procedure may be adopted, even though it be the exact antithesis of my conclusions. It is the eternal truth toward which I am striving, whether that truth in this instance confirms or disproves.

There are altogether too many patients with amebic dysentery who to-day are no better than they were six months after the onset of the disease. There are patients now in the United States in whom the disease has persisted for six, eight, and even ten years. One might say that they could be treated surgically if they wished to be; but has appendicostomy been even offered to them? Has the profession been educated up to the point of offering, or better, of advising operation after a certain lapse of time? Evidently not, if we are to judge from the relative infrequency of the operation, and compare it with the large number of chronic cases.

According to the annual report of the director of health for the Philippine Islands, Victor G. Heiser, passed assistant surgeon, U. S. Public Health and Marine Hospital Service, during the year ended June 30, 1907, there were 344 deaths due to amebic dysentery in the city of Manila, as against 288 for the preceding year.

For every death there are about twenty patients who live, which would make a total of nearly seven thousand cases for that year. When we consider that a large proportion of that number return to the United States and are scattered all over this country, it can readily be seen that amebic dysentery becomes a matter of importance to the general practitioner everywhere in this country, and the subject cannot be dismissed because primarily a "tropical disease." Progressive practitioners indulging in post-graduate work should take opportunity to familiarize themselves with the *Amoeba coli* under the microscope, and then interrogate the stools in "that case of intractable diarrhea."

When a patient presents himself for treatment with a history of "a running off at the bowels," as it is frequently characterized, automatic recourse to bismuth, opium, or similar drugs should not invariably follow. With rest, dieting, and slight medication, an acute exacerbation of a chronic amebic dysentery will often yield, so far as the diarrhea is concerned, and one may be misled into thinking that a "slight attack of diarrhea" has been "cured." *There should be more frequent use of the microscope in these cases.* It should also be constantly borne in mind that a patient does not

have to go beyond the United States to acquire this disease, as it has been shown by Tuttle that cases have occurred among those who have never been outside of New York.

Fletcher² reports ninety-five cases of amebic dysentery contracted in Maryland and seventeen in eight other states, which gives an idea how widespread the infection was five years ago.

Now, whether the disease be considered chronic after a year or after six months, I believe that when it becomes chronic it also becomes surgical.

On the other hand, while it remains acute, it also remains medical, with the single exception of those acute cases which grow steadily worse, even while under treatment. I do not advocate surgical treatment for both acute and chronic cases (with the one exception just stated), but assert that a case ceases to be a medical one as soon as it ceases to be an acute one.

While there may be debatable ground for the adherents of the medical treatment of appendicitis, there remains no tenable ground on which to justify continuation of medical treatment and exclusion of surgical relief in cases of amebic dysentery after they have ceased to be acute. In the latter case one has everything to gain and nothing to lose. He has already lost all he can spare.

It will be seen, therefore, that all through the consideration of this subject the questions come up: When does a case cease to be acute? When does it become chronic? While that can only be stated approximately, that approximate borderland should be bounded by some definite limits, as: Not earlier than six months or later than one year; or, placing it within narrower margins: Not earlier than nine months or later than one year. Some set of principles should be established on which to govern our practice in these cases. The issue should be squarely met. If some such borderland is not established, procrastination only will result and patients permitted to suffer who could be relieved. It was for that reason that last year I suggested a working basis in these words: "Amebic dysentery, with lesions above the sigmoid, chronic for over one year, resistant to colonic irrigations, then become a surgical disease."

One year was suggested as meeting the demands of conservatism, as I have been actuated by a conservative inclination from the beginning. But if further experiences prove that a year is too long to wait, the proper level will be shown by the gauge of clinical experience.

In the *Military Surgeon* for January, 1908, there appears an article on "Ipecacuanha in Amebic Dysentery," by Surgeon Henry I. Raymond, of the United States Army. While the enthusiasm of Raymond as to the permanent value of ipecac in

amebic dysentery is shared by but few others, still, for the purpose of this paper, I invite attention to certain points of related interest.

At this point I wish to state that in my opinion there is no known drug which, taken by mouth, can be tolerated in sufficient strength in the upper alimentary passages to secure a destructive or toxic action on amebas in the colon. Quinin has proved to be destructive to the parasites when brought in direct contact with them; ipecac has not. And yet quinin irrigations have failed to cure in many cases, perhaps because the amebas have become encysted, and then imbedded beneath the submucosa, sufficiently remote and fortified to withstand the action of the quinin solution in the lumen of the gut, only to develop marked activity after a lapse of time, during which the patient has considered himself, or has been considered, as cured. This would account for the fancied disappearance of amebas from the stools in so many cases. Quinin acts on the *Plasmodium malariae* in the blood, while *Amoebae coli* are within the lumen of the intestine, and are not approachable through the medium of the circulation.

For accurate scientific data of reliable clinical value I believe the stools should be carefully examined microscopically for many months, and even years, after supposed recoveries. It would be of value, too, if these examinations were made by an impartial observer, rather than by the clinician himself.

I know of patients who considered themselves recovered, and were so pronounced by their physicians, who were free from all symptoms for three, four, and five years, only to be stricken with severe acute attacks, in the meantime not having been beyond the borders of the United States.

In Case 4 in Raymond's article it will be seen that five months after reported recovery following ipecac treatment the report states that "a few sluggish amebas" were found. To be sure, this patient was in the Philippines at the time, but the time under observation after the treatment was discontinued was only ten months. During that time five microscopic examinations were reported, amebas being present once. The history of this case since November, 1906, would be of decided interest to workers in this field.

Raymond's Case 5 is reported as having been subjected to microscopic examination for only one month after treatment.

While it is not my purpose to belittle the ipecac or any other treatment, the ipecac treatment, by the majority of observers, has been found wanting in amebic dysentery, no matter what it may do in other forms of dysentery. With ipecac or without ipecac, with quinin or without quinin, with argyrol or without argyrol,

if *Amoebae coli* persist after a year, amebic dysentery becomes a surgical disease.

In his well-known work on "Tropical Diseases," Manson says:

"I can offer no explanation of the action of any of these drugs (including ipecac) in dysentery. We use them quite empirically. Ipecacuanha and simaruba really seem to have some sort of specific action on the disease or its cause, but in what way it is impossible to indicate. Strange to say, ipecacuanha, which has been found so serviceable in India, Africa, the Brazils, and elsewhere, has a very poor reputation as an antidyenteric in the United States (Osler); it has also signally failed in some English epidemics (Clouston); facts pointing to specific differences in the dysenteries of different countries."

If ipecac is of value even in a limited number of cases, give it a chance. Leave nothing undone in striving to prevent the case becoming chronic; then, having done all, treat it surgically.

To reiterate: Amebic dysentery, in its initial acute manifestations, is a medical disease. When it refuses to yield to medical treatment and becomes chronic, it then becomes a surgical disease, and no patient should be denied the permanent relief which surgical treatment holds out to him.

Anders³ has said: "I believe that ipecacuanha is the best single remedy for the treatment of this disease, but it is not a specific, and not all patients can take massive doses."

Referring again to the *Military Surgeon* for January, 1908, Assistant Surgeon Robert M. Thornburgh of the United States Army, in an article on "The Treatment of Amebic Dysentery," says:

"From the writer's observations while in charge of the dysentery ward in the Division Hospital, Manila (part of 1905-6), the cases treated solely by ipecac or by ipecac combined with quinin enemata, nearly always relapsed when the treatment was discontinued. . . . No internal treatment used by itself was successful in the hands of the writer in any case of these subacute or chronic cases. . . . Quinin sulphate . . . has been extensively employed with some undoubted cures and numerous relapses with fatal termination. . . . Ipecac can be given . . . to lessen the diarrhea. It lessens the number of stools, but *does not kill the ameba.* (*Italics mine.*)"

Thornburgh thinks well of rectal injections of argyrol, although the cases he reports were only under observation nine months. But whatever the results of further study of the effects of argyrol, the *rationale* of my line of treatment would not be modified. The patients relieved by argyrol would not have to be considered from a surgical viewpoint. If future experience results in reducing the number of cases now becoming chronic, so much

the better; then there will be fewer surgical cases. That would make a difference in numbers without any difference in the principle for which I contend.

Surgical treatment is not an experiment; it has an established place in the treatment of this disease, and I would gladly extend its benefits by heralding its virtues. In fact, it has been so well thought of that it has been employed in pathologic conditions of the colon other than those caused by the *Amoeba coli*, and with marked success.

To give expression to the conclusions of other observers who have treated this disease both medically and surgically, I will quote briefly from an article by Surgeon Holton C. Curl⁴ of the United States Navy, entitled "The Surgical Treatment of Dysentery." He says:

"The necessity for surgical interference was brought strongly to my attention by observing the number of cases admitted to hospital (Isthmian Canal Hospital, Colon) in fairly good condition, which grew steadily worse in spite of the best medical treatment by careful and experienced men, . . . what I call an 'intermediate class,' . . . where medical treatment does not check the disease, where the patient loses strength and finally dies, the pathologic condition apparently uninfluenced by medicine or ordinary irrigation. It is in this class, varying as it does between extremes, that I would advise operation, and in most of these cases it is a *dernier resort*, offering the patient the only chance of recovery.

"In a condition where there is nothing to lose and everything to gain, the surgeon is tempted to operate in cases in which he feels that the chances are all against recovery. He realizes, however, that cases of this sort, apparently hopeless, will recover in a most surprising manner, and he undertakes the operation often to the detriment of his percentage of recoveries. I prophesy that the mortality percentage will be high until the medical man (as in appendicitis) learns to send his patients to the surgeon before it is too late. Even more than in appendicitis there is a tendency to procrastinate, to try some new remedy, until, when the patient finally reaches the surgeon, his chances are small."

Recently I received a letter from Dr. Jerome B. Thomas, of Brooklyn, N.Y., from which I shall quote. Thomas spent several years in the Philippines, and was the physician in charge of the Government Sanitarium at Benguet. He writes as follows:

"I had an experience in treating a case of chronic amebic dysentery soon after my return from the Philippines that has led me to the same conclusion that you have reached. The patient was a personal friend of mine, and we tried diet, internal medication, sanitarium treatment, and all sorts of local treatment for

almost a year, when we agreed on appendicostomy as a last resort. Within two or three days after the operation he had made decided improvement, and then his progress was steady and quite rapid. I feel sure that he would have died without the operation."

This is only another of the many examples of how the surgical treatment appeals to the progressive practitioner. It is so essentially practical that it is no wonder that it has been referred to by MacKenzie as "a marvel of ingenuity."

One of Rockey's patients, also a medical man, has said that he would not take \$1,000 for the benefit that his appendix has been to him.

While all the literature on the subject is not available at this time, for the consideration of those who have not reached any conclusions in this matter I would mention the names of Weir, Tuttle, Rixford, Nydegger (U.S.P.H. and M.H.S.), Arthur (U.S.A.), Curl (U.S.N.), MacKenzie, Rockey, Barbat, Willy Meyer, Beck, Elder (of Montreal), and many others who have employed surgical treatment.

In conclusion, I would suggest that the *Amoeba coli* may not be pathogenic to all men, as it is well known that all individuals equally exposed do not contract the disease. The so-called *Entamoeba coli* may be the form of the parasite as observed in the stools of an individual not susceptible to amebic invasion. The so-called *Entamoeba dysenteriae* may be the same parasite developing greater activity coincident with morphologic changes in an individual having a susceptibility to the organism. Have *Entamoebae dysenteriae* ever been found in a case presenting no clinical symptoms? And have *Entamoebae coli* ever been found in a person sick with dysentery in whom no *Entamoebae dysenteriae* could be demonstrated? This may be a case of a distinction without a difference, a biologic distinction without a clinical difference.—*Journal of the A.M.A.*

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Proceedings of Societies.

THE TWENTY-NINTH ANNUAL MEETING OF THE ONTARIO MEDICAL ASSOCIATION

THE twenty-ninth annual meeting of the Ontario Medical Association opened in the Medical Building of the University of Toronto on the morning of June 1st last, and continued during the two following days. Over 200 medical men were in attendance from Toronto, Hamilton, London, Montreal, Ottawa, Buffalo, Detroit, New York, Winnipeg and other cities. The president, Dr. H. J. Hamilton, Toronto, gave an opening address, full of valuable suggestions, the keynote being "Educate the people, by starting with the rising generation." Alluding to the opposition to the vaccination of school children in Toronto, he remarked: "I venture to say that none of the members of the School Board in Toronto would hesitate about taking the Pasteur treatment for the prevention of hydrophobia, if bitten by a mad dog, yet they decline to enforce vaccination in the public schools. And what Pasteur's treatment is to hydrophobia, so vaccination is to smallpox." He declared that tuberculosis and typhoid fever were preventable diseases; but, to adequately secure their prevention, the homes of the people must be reached, and that could be more thoroughly done through a proper system of medical inspection of schools and the drilling of the school children in hygiene. The sewage disposal system and the water filtration system of Toronto were cordially endorsed.

The list of papers read at the meeting was a long one. We shall be pleased to publish several of them in subsequent issues of this magazine.

On the afternoon of June 3rd Dr. William Osler gave an address, which is noticed editorially in this issue.

The annual dinner, held at McConkey's, was a very enjoyable function, and was largely attended.

The next place of meeting will be Niagara Falls, Ont.

The following officers were elected for 1909-10: Dr. H. R. Casgrain, Windsor, President; Dr. H. B. Anderson, Toronto, First Vice-President; Dr. J. M. Rogers, Ingersoll, Second Vice-President; Dr. J. C. Connel, Kingston, Third Vice-President; Dr. J. R. Arthur, Collingwood, Fourth Vice-President; Dr. F. A. Clarkson, Toronto, General Secretary; Dr. G. S. Strathy, Toronto, Assistant Secretary; Dr. J. H. Mullin, Hamilton, Treasurer.

CANADIAN ASSOCIATION FOR THE PREVENTION OF CONSUMPTION

THE ninth annual meeting of the Canadian Association for the Prevention of Consumption and other Forms of Tuberculosis, just closed in Hamilton, was one of the most successful in the history of the Association. The Recital Hall of the Conservatory of Music was roomy, but not too large, well lighted and well ventilated, and in every way comfortable. The attendance, though largely from the city, was thoroughly satisfactory in point of numbers and in the interest manifested in the proceedings.

His Worship Mayor MacLaren welcomed the convention in a very neat and appropriate address, in which one might detect an undertone of becoming satisfaction with the fact that his own city stood in the front rank among Canadian cities in having provided facilities for the care and treatment of those suffering from consumption.

Dr. Lafferty, who had been called to the chair in the absence of the President, and who continued to discharge the duties of the chair until the close of the meeting, in a few well-chosen words made a felicitous reply.

The report of the Executive Council, presented by the Secretary, showed marked advance during the year. Dr. C. N. Valin, Professor of Hygiene of the University of Laval, Montreal, had been appointed to give a course of lectures in the chief centres of the French population of Quebec, and thus far his audiences range from 300 to 800 persons, and much interest had been awakened among our French fellow-countrymen.

The Executive Council also were fortunate in securing the services of Dr. Geo. D. Porter, of Toronto, as Lecturer and General Organizer. As yet his labors have been confined to the Province of Ontario, but the scope of his commission includes the entire Dominion and extends from ocean to ocean.

Down to the end of February, which is the end of the Association year, Dr. Porter had visited Almonte, Arnprior, Renfrew, Douglas, Pembroke, Smith's Falls, Brockville, Galt, Guelph, Berlin, Stratford and Woodstock, in most of which places he has succeeded in having branches organized.

Though not falling within the year of the Association, it was also mentioned that he had visited Kingston and Niagara Falls. In the latter the invitation to lecture came from the Civic Board of Health. Recently he succeeded in forming two organizations in Toronto, one of which is known as the "Heather Club," which finds its membership largely among the nurses of the Sick Children's Hospital, so widely known throughout the Province, in fact,

throughout the Dominion, as the result of the able and successful management of Mr. J. Ross Robertson.

One of the interesting events of the past year was the visit of Dr. R. W. Philip, Physician to the Royal Infirmary, Edinburgh, Scotland, who passed through Canada to attend the Washington International Congress.

By an arrangement made with the Association, he visited and lectured in Quebec, Montreal, Ottawa and Hamilton. Speaking as he did, out of the fullness of twenty years' experience in municipal handling of tuberculosis, his lectures were rich in interest and instruction to those who had the pleasure of listening to his presentation of the case.

During the month of May, 1908, the Secretary, by special invitation, visited Barrie and the County of Simcoe. He found everywhere a growing feeling in favor of the establishment of municipal or county institutions for the treatment of consumption. At the same time there was a manifest disinclination to undertake such an enterprise unless more largely aided by the Province than is possible under the Ontario Public Health Act of 1900. This feeling is by no means peculiar to the County of Simcoe, but pervades the country generally.

Nevertheless, hopeful beginnings looking toward the erection of sanatoria have been made in St. Catharines, for the city and the adjacent County of Lincoln; in London, for the city and the County of Middlesex; in the Counties of Carleton, Lanark and Renfrew jointly; and finally, after long-enforced delay, the Ottawa Association is in a position to proceed with the erection of the greatly-needed Relief Home for far-advanced cases.

NEW BRUNSWICK.

In the Province of New Brunswick a very hopeful movement has been started. On the 5th of January last it was resolved to form an association in St. John, and on the 21st of the same month a deputation, consisting of physicians, clergymen and others, waited upon the Provincial Government, asking a grant in aid of the establishment of a sanatorium and the appointment of a commission to select a suitable site. The Hon. J. Douglas Hazen, the Premier of the Province, gave the deputation an encouraging reply and promised early legislation in the direction sought.

NOVA SCOTIA.

Nova Scotia has long had a model sanatorium, owned and managed by the Provincial Government, and movements are now in progress with a view to the establishment of branch associations in Halifax, Yarmouth, Amherst, New Glasgow and other parts of the Province. Sentiment in favor of such action has been awakened

by the splendid work of the County of Colechester Association, which, under the leadership of such men as Dr. Smith L. Walker, the Honorable Judge Laurence, and Principal Calkin, has done some most excellent work in the last five years.

PRINCE EDWARD ISLAND.

In Charlottetown and Summerside the Associations report activity in the delivery of lectures and dissemination of literature with good results.

QUEBEC.

In this Province the Montreal League prosecutes the dispensary and educational work with unabated vigor, and looks hopefully forward to larger efforts during the year.

The Quebec League, which in 1905 received a grant of 137 acres of land adjacent to Lake Edward, has about finished their building, and expects to open the Lake Edward Sanatorium for patients within a few weeks. This institution will cost somewhere in the neighborhood of \$60,000, and will probably be opened free of debt and with a maintenance fund in hand to meet further outlay for some time to come.

In the city of Quebec a French branch of the Association has also been formed, with good prospects of successful work among the French-Canadian population of the city.

MANITOBA.

Under date February 23rd, 1909, Mr. E. M. Wood, Deputy Municipal Commissioner, writes: "I am delighted to be able to inform you that the site has now been definitely located at Ninette, and sufficient funds are in hand to enable the Trustees to proceed with the building as soon as the frost is out of the ground this spring, and we hope to open for the reception of patients early in the fall. The charter of the Association is being amended to permit the erection of a hospital for advanced cases, which will be built in or near the city of Winnipeg."

Early in the year 1909 an association was organized in Winnipeg, and has already established a tuberculosis dispensary, by means of which it is hoped the management may be brought into closer touch with the sufferers in the city.

BRITISH COLUMBIA.

The reports from the Tranquille Sanatorium of British Columbia have not yet come to hand, but it is known that the institution has prospered during the year.

The Association, in the year 1908-9 down to March 1st, had put into circulation fully two and a quarter millions of pages bearing

more or less closely upon the cause and prevention of consumption, and the Association's literature has been in greater demand during this year than ever before.

It was noted with regret that the Honorary Treasurer, Mr. J. M. Courtney, who had filled this office ever since the Association was first formed in 1901, had retired from this position. Mr. Courtney carries with him the highest respect and confidence of those associated with him all these years.

The Executive Council proposes for the now current year to appoint a committee on finance, whose duty it shall be to appeal to gentlemen of wealth throughout the Dominion for additional support sufficient to enable the Association to meet the needs of a constantly growing work. And also a committee on education which will be expected to devise measures to secure a more active co-operation on the part of the Provincial educational authorities, and to awaken a deeper and more active interest among the teachers of the different provinces.

The five days' convention of the teachers of Newfoundland, held in St. John, the capital of the Province, under the presidency of the Hon. John Harvey, was referred to as an instance of what might be accomplished by teachers, and as affording some hints for our guidance throughout the Dominion.

During the course of the convention there were three discussions of living topics, two of which were formally introduced by appropriate papers by Dr. W. C. White, of the Pittsburg (Pa.) Sanatorium, and by Professor Adami, of Montreal. Dr. White's paper dealt with the question of "Municipal Supremacy in Tuberculosis," while Dr. Adami treated the closely related question of "Economies and Success in the Treatment of Tuberculosis."

It is impossible for a layman to attempt to summarize these admirable, practical and instructive papers or the discussions which followed them, and there is the less need of such an attempt, as they will both appear in extenso at an early date in the official report of the transactions of the meeting.

The third discussion was perhaps of a less formal character, but none the less useful or instructive. The subject: "The Responsibility of the People in Relation to Tuberculosis," was introduced by Dr. Lockhart, of Hespeler, who, though not expecting to be the first speaker, opened the question in such a manner as to prepare the way for those who followed.

The election of officers took place on the afternoon of Thursday, when Dr. Adami was unanimously called to the presidency of the Association, and Mr. George Burn, the General Manager of the Bank of Ottawa, was with equal unanimity elected to fill the office of Honorary Treasurer.

Very cordial votes of thanks were passed to all who had in

any way contributed to the success of the Association, and the enlargement of its work during the past year. And especially to the Mayor and Aldermen of the city of Hamilton for their courteous invitation to meet in this city, and to all the members of the committee on arrangements, whose labors had done so much to contribute to the comfort and success of the convention.

The business of the meeting having thus been accomplished, Dr. Lafferty briefly reviewed the course of the convention, and adjourned the meeting to enable the members present to accept the hospitality of the Ladies' Board of the Mountain Sanatorium, and finally ordered another convention to be held in 1910 at such date and place as may be fixed by the Executive Council of the Association.

The Canadian Journal of Medicine and Surgery

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No. 1.

Editorials.

DR. OSLER'S ADDRESS TO THE ONTARIO MEDICAL ASSOCIATION

THE closing of the 1909 meeting of the Ontario Medical Association was dignified by an address on the subject of the treatment of disease by Dr. William Osler, regius professor of medicine in the University of Oxford. The address was given in the auditorium

of the Physics Building. Dr. Osler dealt with the advances made by medical science in recent years, contrasting the severe therapeutics which prevailed in early decades of the nineteenth century, when physicians pinned their faith to bleeding, purging and sweating, with the milder therapeutic agencies, which have held sway during the past sixty years.

Lauding the great discoveries made in the etiology of disease, he showed their importance by instancing their application to the prevention of diseases in tropical countries. In the Canal Zone of Central America, and in the island of Porto Rico, the death rate had been cut in half; malarial fevers and yellow fever could now be prevented by simple methods and remedies.

"We have advanced rapidly," he said, "along the road of the treatment of diseases caused by micro-organisms, and the treatment by means of antitoxins and vaccines has progressed. Anyone acquainted with the progress made in medicine in the last ten years cannot but have confidence in the future."

Pneumonia, he regretted to say, continued to be as potent a cause of death as ever; but he thought that a reduction in its mortality would result if it were regarded as a preventable disease. The lesson of humility was also taught to medical science by the high death rate of cancer.

Dr. Osler had been called a "therapeutic nihilist," a reproach borne with equanimity. He said that the profession, as a whole, had got away from the practice of indiscriminate drugging, and that the cure of disease could be produced by the use of a few drugs.

Manufacturing chemists received a note of praise, for their resourceful art in providing pleasant and potent drugs instead of the nauseating mixtures of the past; but the lecturer deprecated their practice of offering suggestions to physicians as to the treatment of disease.

Alluding to the prevalence of faith cures at home and abroad, he mentioned the cures at the shrine of St. Anne de Beaupré, Quebec, and at the grotto of Lourdes, France. He thought they were not wholly censurable, and said: "Who, if a beloved child were at death's door in Rome, would not send for the Santo Bambino? Has not credulity, the blessed perquisite of the race, some balance on the credit side for the comfort it has given to pious souls?"

The prayer of faith had saved many lives, and the principle of faith was the most precious asset of the medical profession—once lost, how long would a doctor retain his clientele? There must be a “willingness to believe” attitude; but, nowadays, the prayer of faith would not set a broken thigh, or prevent the spread of an epidemic of typhoid fever.

Dr. Osler thought that the clergy should not dabble in physic,—but should hand it over to the doctors.

Therapeutics, he thought, should be taught in hospitals, rather than in lecture rooms. In the former, students of medicine should learn the nature, course and treatment of diseases, the administration of the few great drugs, the use of ether and chloroform, the dieting of patients, and many other things. A vote of thanks to the distinguished lecturer was moved by Dr. J. H. Richardson, and suitably acknowledged.

J. J. C.

HYPODERMIC INJECTIONS OF MERCURIAL SALTS, IN LOCO DOLENTI, IN SECONDARY AND TERTIARY SYPHILIDES

PROFESSOR J. DARIER (Broca Hospital, Paris) has on many occasions employed local injections of mercurial salts in the treatment of secondary and tertiary syphilides. His pupil, Dr. Henri Hamel, of the same hospital, gives clinical histories of sixteen cases, in which he had employed Professor Darier's method successfully. His paper is published in *Le Bulletin Médical de Quebec*, Janvier, 1909. He does not use this special treatment as a substitute for the regular constitutional treatment of syphilis; but, “when it is certain or probable that local lesions of syphilis result from a localization of its pathogenic agent, applies the curative agent at the very spot where it will be useful, instead of diluting it in the whole mass of the humors of the patient's organism.”

Ulcers in particular have been advantageously treated by this method: they fill up rapidly, but the growth of skin over the ulcers takes a longer time. Papules and tubercles are removed with equal rapidity; they wither or dry up and become covered over with a horny crust, which is subsequently thrown off, as if it had been expelled from the interior to the surface, so quickly does the infiltration go.

After trying a solution of the biniodide of mercury, 1-2000, in several cases, Dr. Hamel gives the preference to a solution of the cyanide of mercury, 1-2000, with stovaine, 1-200, in a normal salt solution. This is painless.

He recommends a fine hypodermic needle, such as is used for intravenous injections. The needle is pushed obliquely into the lesion, tubercle or ulcer, so as to reach the deeper layers of the tissues, and the fluid is afterwards slowly injected, 2 cc. (about 34 minims) being used; the injected liquid should cause a marked infiltration of the lesion treated.

In looking over Dr. Hamel's cases, one notes that eleven of them were cured by hypodermic injections of the biniodide of mercury, the solutions used varying in strength, viz.: 1-2000, 1-3000, 2-1000. In five cases the cyanide of mercury preparation was used, and in four of them there were no untoward results. In Case XVI., however, a bloody diarrhea followed the injection of the cyanide of mercury solution; a preparation of iodide of potassium caused symptoms of iodic poisoning; the cure of the syphilide was effected by local injections of biniodide of mercury of a strength of 1-3000. The objection to the injection of even weak solutions of the biniodide of mercury is that they are painful, and that cocaine and stovaine cannot remove this difficulty, as they both yield precipitates with the biniodide salt. A saturated solution of guaiaccol added to the biniodide solutions produced no appreciable analgesic effect. Dr. Hamel therefore recommends cyanide of mercury, 1-2000, combined with stovaine, 1-200, in the isotonic solution of chloride of sodium.

J. J. C.

THE MILK SUPPLY OF TORONTO

UNLESS the city of Toronto obliges the dairymen who send milk to Toronto to conform to proper sanitary regulations, pure milk will not be supplied by all of them. In the Ontario Health Act, 1884, Section 39, Sub-section 1, municipal inspection of milk is provided for; inspection of cow-byres is also provided for in Schedule A, Section 10, of the Act. The Provincial Board of Health has gone as far as its limitations allow, by impressing on local boards of health the importance of the careful inspection of dairies, and by

furnishing them with specifications by which they should measure the capacity of each dairyman to supply good milk. It has issued a circular showing the requirements of a first-class dairy. The construction, lighting, ventilation, cleaning of the cow-byres, are minutely described. The proper method of milking, the hygiene of the milkers, the most approved method of handling milk until it is delivered to the customer are given in detail.

Excellent as these rules are, they will not suffice to accomplish the intended object. Local boards of health in municipalities which ship milk to Toronto will not oblige their dairymen to tear down old-style byres, in order to construct better ones. They will not insist on proper methods of keeping cattle neat and tidy. They will not order an analysis of the well water of the dairy, nor insist on the removal of a privy situated too close to the dairyman's well. Rural medical officers of health receive a mere pittance for attending to the grosser unsanitary evils of their municipalities, and cannot be expected to incur loss of local influence, or loss of money, in suits for damages, for looking after the purity of the Toronto milk supplies. The fear of the Lord is the beginning of wisdom, and the fear of an independent milk inspector from Toronto, backed by a bacteriologist, will teach the dairyman to observe the rules of the Provincial Board of Health. City inspectors should visit the dairy farms regularly, and they should have power to enforce the observance of the rules of the Provincial Board of Health, by ordering the dairyman to discontinue sending milk to Toronto for disobedience to these rules.

The weak point of the milk situation in Toronto is that inspectors are not employed to enforce the regulations of the Provincial Board of Health in the 200 dairy farms which send milk to this city.

Mr. E. B. Shuttleworth, who, for fifteen years, was bacteriologist of the local board of health of Toronto, stated in an interview published in *The Daily Mail and Empire*, May 27, 1909, that it had not been the practice of the Medical Health Officer of Toronto to make or order to be made regular bacteriological examinations of samples of milk; that the work of the inspectors of milk in this city is very imperfectly done; that there is no Provincial standard by which milk may be tested for butter fat, and that the medical health officer has no protection against suits for damages by milk dealers, whom he may report as guilty of selling impure milk.

In reference to the inspection of dairies, which includes places in which milk is received and sold, the work in Toronto was confided to *one* man, who reported on the condition of the dairies, the number of cans of milk received, whether it was sold in cans or in bottles, and on the condition of the establishments regarding cleanliness. Where cows were kept within the city limits, an inspection was also made of the byres, but this left the country dairies unprovided for. There must be 200 dairies from which Toronto is supplied. Last year there were 2,500 cans of milk a day brought into Toronto, and this year there would be 3,000.

About 40 per cent. of the dairies are small farms, which supply under 40 gallons a day, and 14 per cent. of them supply under 16 gallons.

The inspection of these dairies has been done in a very imperfect way. The conditions in them are usually exceedingly unsatisfactory, both as to sanitary arrangements in the byres and as to care in milking, and in the cooling and storing of milk.

Hence it is evident that, for the last fifteen years, the civic health department of Toronto has accepted the milk supplies sent from the country with an insufficient knowledge of, or a lack of control over, the conditions existing on the dairy farms from which they come. Referring to this last point, Mr. Shuttleworth says: "If any consumer of milk was familiar with the conditions under which some of it is produced, he would hesitate a long time before accepting it as emblematic of purity." Such a state of affairs is intolerable, particularly when lives are at stake. The compliance of the Ontario dairyman with the rules of the Provincial Board of Health respecting dairies is quite voluntary. It ought to be made obligatory, and Toronto should send inspectors to the dairies to enforce these rules, the city taking legal responsibility for its own acts and making no effort to shield itself behind a local board of health or a medical health officer.

J. J. C.

EDITORIAL NOTES.

Merited Praise for Toronto.—The recent reduction of liquor licenses in Toronto, 110 licenses being now granted, instead of 150, as had been the custom for the past twenty-two years, together with an increase in the license fees, receives favorable mention in an editorial note written by Dr. St. Jacques, in *Le Journal de Médecine et de Chirurgie*, Montreal, April 24th, 1909. He says: "There are over 300 barrooms in the east end of Montreal. Really, we should inquire if our authorities know what they are about. They know that over 175 of these places belong to one man, and over 125 of them to another. Why do they not make the diminution of the number of licenses obligatory, and keep up the revenue by raising the license fees? Instead of asking \$400 for a license, which is the price asked in this city now, why not ask \$1,200, as they do in Toronto? The longer we live, the more convinced are we that English-Canadians place patriotic feeling and respect for their fellow-man on a higher and better level than we do. We are forced to think ill of our authorities." What strikes us in Toronto as inexplicable is the lack of influence exercised by temperance advocates, particularly the clergy, in Montreal. The clergy of Montreal are in a better position to know the crime, moral degradation and poverty arising from intemperance than other men. The doctors see the diseases, diseased conditions, and the lessened power of resistance to disease, which are traceable to intemperance. If these two professions were to join forces in a campaign against the excessive number of bars in Montreal, failure would be impossible.

Tuberculosis Traced to Firewater.—The late Dr. Oronhyatekha, one of the most intellectual Indians of the nineteenth century, was strongly opposed to whiskey, which had been instrumental in lowering the physical prowess of the redman. So fatal is whiskey to Indians, that in Canada whites are forbidden by law, under severe penalties, to sell it to Indians. We presume that a similar law exists in the United States. Whether this be true or not, the Indians in that country manage to get whiskey, and are misusing it, to their own undoing. Dr. Porter, State Commissioner

of Health, New York State, reports, May 21, 1909, a large mortality from tuberculosis among the 5,000 Indians in the various reservations in that State. In the opinion of Dr. Huber, an expert who has just made a study of this subject, whiskey is the most potent agency in causing tuberculosis among American Indians.

Some Recollections of the Practice of Medicine at Toronto General Hospital in 1869-70.—In a paper read at a meeting of the Toronto General Hospital ex-House Staff Association, April, 1909, Dr. Alexander Taylor, Goderich, says: "In reference to the treatment of enteric fever, we gave large doses of quinine. I have seen as high as 30 grains given, and, if the temperature did not come down in four hours, I have seen the dose repeated." It is true that the cold water treatment of typhoid fever, introduced by Brand, of Stettin, in 1861, had not reached Toronto General Hospital in 1869; but it is doubtful that it had reached other hospitals in America at the latter date. Quinine was used as an antipyretic in typhoid fever in 1869. Even in 1884, when the cold water treatment of typhoid fever had become general, the great American author, Flint, wrote: "Of drugs which have an antipyretic effect, quinine holds the first rank. It should be given in a full dose, that is, from 20 to 40 grains, before the evening exacerbation." Hence the Toronto General Hospital physician who, in 1869, prescribed 30 grains of quinine as an antipyretic in a case of typhoid fever, was acting according to the received opinion of that day. The writer's own hospital case book does not show that the antipyretic administration of quinine in typhoid fever was generally adopted by the hospital staff in 1869-70. For instance: "E. W. N., etat 19, male, April 19, 1870; typhoid fever:—

R		
Quiniae sulphat	.....	grs. xxxii
Acid. sulph. aromat	.....	f ʒii
Aq. ad.	.....	ʒ viii
Sig.	ʒ ss. tid.	m

Here no effort was made to lower temperature with a drug or interrupt the natural course of enteric fever. Quinine was occasionally prescribed by Toronto practitioners of 1869, to settle the diagnosis of a case, or through error. The writer's first case of typhoid fever, September 8, 1868, was of the latter nature, the physician first called having pronounced it a case of intermittent

fever and prescribed quinine. Forewarned by the failure of quinine to cure, and recognizing definite symptoms of enteric fever, the writer prescribed for the diarrhea in that case powders of hydrarg. c. creta with morphine; for the fever, bisulphite of sodium in doses of 10 grains three times a day. Diet: sago, beef tea, sherry wine in milk three times a day. After the fever left the patient, beef tea, chicken broth, wine and milk were ordered; no medicine. This patient recovered, the only complication being subcutaneous abscesses. In reference to the presence of smallpox in Toronto General Hospital in 1870, the following extract from the writer's hospital case book confirms Dr. Taylor's remarks: "June 8, 1870. E. F., female, etat 22, admitted for scrofulous eruptions on cheeks, nose and ears of 11 years' duration. September 15, 1870. She caught smallpox and was removed upstairs to a smallpox ward. October 4, 1870. Recovering." This patient had been in the Toronto General Hospital for over three months before she caught smallpox, although the upper flat was devoted to smallpox cases.

Diseases Cured by Radium.—In the course of a lecture on "Radium in Surgery," delivered at the London Hospital, January 26th, 1909 (*vide* B. M. G., Feb. 6, 1909), Sir Frederick Treves stated that radium will cure every form of naevus. It can cure the "port wine" stain. It can rid the patient of a pigmented mole or a hairy mole. The lecturer mentioned four illustrative cases. Radium cures chronic eczema, associated with itching. It causes keloid to vanish; the keloid left by a wound, the keloid left by tuberculous glands, and the acne form of keloid. Radium will cure long-standing rodent ulcers, in which the tissues have become adherent to the bone, or apparently so, in which there is ulceration, and in which—and this is the most important point of all—the Finsen light, the X rays, and cataphoresis have all been tried and have all failed. Epithelioma of the lips and epithelioma of the tongue have been cured by radium. The cured cases were in the early stages of the disease; but they were ulcerating epitheliomata, which yield to no other treatment than operation. Sir Frederick Treves had seen several of these cases. He also mentioned a case of epithelioma of the face, which had perforated into the nasal passages; the disease was cured by radium after a good many sittings. Other cases were: An epithelioma of the ala nasi, cured

by radium after a number of sittings, amounting in all to eight hours' exposure; an epithelioma of the cheek, as large as a 50-cent piece, cured and the surface healed over. The results are apparently of a permanent character. The lecturer saw a case in Paris, in which an epithelioma of the face, cured by radium, remained perfectly sound after two years. In *B. M. J.*, May 1st, 1909, p. 1072, we notice a description of a convenient radium applicator, which has been devised by Mr. W. H. Martindale, Ph.D., London, Eng. It is in the form of a square locket, with a mica window, which cuts off the alpha rays, while allowing the other rays to pass. Radium bromide is spread in a thin film on the square surface, either pure or mixed with an inert salt to yield a definite activity in uranium units, so that the operator may know exactly what strength he is using on a given surface. The locket applicators are made with an area of 1, 2, or 3 sq. c.m.; nine carat gold is employed, and the price is said to be reasonable.

A Separate System of Sewerage and Disposal Works at Baltimore.—A satisfactory and economical disposal of civic sewage depends on whether it is removed by the separate or combined system of sewerage. The combined system, which is in almost universal use, provides for the removal of all kinds of sewage and of storm water as well, through one set of pipes. In the separate system two sets of pipes are provided and connected with houses—one set for domestic or manufacturing sewage, and a second set for storm water. The separate system of sewerage simplifies and cheapens the purification of sewage, storm water, which is in many cases enormous in quantity, being excluded from the purification process. New sewers of the separate system type are being installed in Baltimore, Maryland. One set of sewers will remove sewage and another set will remove storm water. Two-thirds of the sewage proper will be intercepted by a high-level intercepting sewer and carried by gravity to the disposal works, situated close by the Back River. One-third of the sewage, gathered from the lower levels of the city, will be intercepted by a low-level interceptor, and afterwards pumped to the high-level interceptor, whence it will flow by gravity to the disposal works. The disposal works, when completed, will be capable of treating 300,000 gallons of sewage a day. At the disposal works, the sewage will flow into hydraulic

tanks, in which provision is made for the separation and subsequent removal of the sludge. The sewage then flows onto beds of broken stone, eight and a half feet deep, over which it will be distributed by means of sprays. It will then flow through under-drains to settling basins, situated at a lower level, and thence into the Back River. It is said that the effluent will come out practically clean water.

J. J. C.

PERSONAL.

DR. A. W. MAYBERRY and Dr. E. Herbert Adams, of Toronto, are among those who sailed on the SS. Laurentic on June 19th. They intend visiting some of the large clinics on the Continent and in England.

Obituary

DEATH OF DR. J. N. ANDERSON

Dr. J. N. Anderson, of 5 College Street, for over twenty-five years a practising physician in the city, was stricken with apoplexy last evening while visiting at the home of Mr. Wm. Bryce, of 63 Brunswick Avenue, and died in a few minutes. The deceased had not been in the best of health since the first of the year, but was able to attend to his professional duties, and his sudden death came as a surprise to all who knew him.

The late Dr. Anderson was born in Norfolk County, near Simcoe, sixty-eight years ago. He was a widower, and since the death of his wife a year and a half ago, his niece, Miss Tisdale, has been keeping house for him. Mrs. A. Garnett and Mrs. P. Dean, both of Tillsonburg, are sisters of the deceased.

News of the Month.

MILK STERILIZATION AT THE HOSPITAL FOR SICK CHILDREN

THE residents of Toronto are under renewed obligation to Mr. John Ross Robertson. He is placing in the Sick Children's Hospital a milk-sterilizing outfit. The plant will have capacity sufficient to supply milk to two thousand children daily, if necessary. This milk, in the first instance, will be for the use of the interne patients and staff, and then for the out-patients, and, finally, it is proposed that children at large will be supplied at cost.

This work is comparable to that carried on by Dr. Nathan Strauss, of New York, who supplies two thousand New York children. This milk is on sale in Tompkins Park at 1 cent a glass. Eight thousand glasses are sold daily.

Since the installation of pasteurization of milk in Randall's Island Hospital for Sick Children, a municipal institution, the death rate has dropped from 90 per cent of the children admitted to 45 per cent. A very important point to note is that this milk so pasteurized was a "certified" milk before pasteurization.

"Certified" milk, desirable as it is, may not be free from infection by the bacilli of tuberculosis. The reason of this is that, although cows may be tuberculin tested every year or every six months, they may develop the disease within a short time after they have been tested, and the milk of such a diseased cow may contaminate the whole supply.

Pasteurization does not mean the sterilization of milk or the boiling of milk. The milk furnished by Strauss is produced by taking certified milk and subjecting it to a temperature of 155 degrees F. for twenty minutes.

The main reason why medical men have an antipathy toward pasteurized milk is because often in the past so-called pasteurized milk has not been pasteurized, but boiled or sterilized. In such milk the enzymes are destroyed, thus interfering with the nutritive value of the milk and making it more difficult to digest, and likewise more subject to putrefaction. In some instances such milk is said to produce rickets and scurvy.

The best authorities state that milk pasteurized properly is not damaged, and never produces any mal-conditions in the consumer.

TUBERCULOSIS OF THE CATTLE.

It has been found that as one proceeds northward through the United States, the incidence of tuberculosis in cattle increases. This is probably due to the fact that northern cattle are stabled more than the southern cattle. The out-of-door life which obtains with southern cattle has the same good effect in the prevention of tuberculosis as is found in the human family. Arguing along this line, there must be a good deal of tuberculosis among the Canadian cattle. In New York State, the statistics show that 25 per cent. of the milch cows there are tubercular. If even this condition obtains in Canada, it is high time attention was called to the milk which is subject to infection, and which is such a splendid culture for germs of all sorts.

La Presse, of Montreal, on the 22nd of May, contained a story of the condition of Montreal milk, Dr. Dube, of the Pure Milk League, asserting that the milk supply there was the worst in the world. In Toronto, three commissions are at work investigating the conditions of milk in that city and in the country at large.

The Medical Era's Gastro-Intestinal Editions.—During July and August, The Medical Era, of St. Louis, Mo., will issue its annual series of issues devoted to the gastro-intestinal diseases. The July number will take up the usual bowel disorders of hot weather, and the August will be devoted entirely to typhoid fever. These issues always attract considerable attention. The editor will forward copies to physicians applying for same.

The Physician's Library.

BOOK REVIEWS

A Text Book of Surgical Anatomy. By WILLIAM FRANCIS CAMPBELL, M. D., Professor of Anatomy, Long Island College Hospital; Attending Surgeon to the Methodist, Episcopal, Swedish and Bushwick Hospitals; Consulting Surgeon to the Jamaica Hospital. With 319 original illustrations. Philadelphia and London: W. B. Saunders Company. 1908. Canadian Agents: J. A. Carveth & Co., Toronto.

Dr. Campbell's text-book is composed of 650 pages, and is divided into six parts. Part one is devoted to "The Head and Neck"; part two, "The Thorax"; part three, "The Upper Extremity"; part four, "The Abdomen and Pelvis"; part five, "The Spine"; part six, "The Lower Extremity."

As the writer says in his preface, "Anatomic facts are dry only as they are isolated. Translated into their clinical values, they are clothed with living interest." To say the least of it, the study of the human anatomy makes somewhat "dreary reading"; but when associated with "clinical values," the study is one of the deepest interest. The author is to be congratulated upon his volume, as it is not only one of scientific value, but beautifully illustrated, and, from a typographical standpoint, could hardly be improved upon. The work is one that should meet with a goodly demand, and be succeeded in a very short time by a second edition.

W. A. Y.

A Manual of Practical X-Ray Work. By DAVID ARTHUR, M.D., D.P.H., Medical Officer in charge of X-ray Department, West London Hospital, and Lecturer on Radiology, West London Post-Graduate College, and JOHN MUIR, B.Sc., M.B., Ch. B. and B.Sc. (Pub. Health). With about 120 illustrations. New York: Rebman Company, 1123 Broadway. 1909.

In the preface the authors tell us that their book is designed to meet the wants of graduates taking post-graduate courses, as well as medical students and practitioners desiring a practical working guide to the subject of X-rays, and in the 237 pages of reading matter this purpose is most admirably carried out in a manner both lucid and concise. The illustrations deserve a share

of praise also. The liberal use of heavy type permits rapid and easy reference, and emphasizes points of special importance. But seventeen pages are devoted to therapeutics, as might be expected in a manual of this sort, yet in this limited space the authors have condensed a large amount of useful knowledge, as well as much excellent advice. Typographically, the book presents an excellent appearance.

C. R. D.

Clinical Diagnosis and Treatment of Disorders of the Bladder, with technique of Cystoscopy. By FOLLEN CABOT, M.D., Professor of Genito-urinary Diseases, Post-graduate Medical School; Attending Genito-urinary Surgeon, City and Post-graduate Hospitals, New York. Illustrated. New York: E. B. Treat & Company. 1909.

The object of Doctor Cabot's little book, *i.e.*, to teach general practitioners the principal methods of diagnosing and treating disorders of the urinary bladder, is well sustained through this little book of 213 pages.

We would commend it to all practitioners who may aspire to the successful use of the cystoscope, than which there is no more pesky instrument in use at present.

The chapter on the various kinds of instruments in vogue will prove useful, and probably more reliable than the agent of any particular kind.

F. N. G. S.

Lectures to General Practitioners on the Diseases of the Stomach and Intestines. With an account of their relations to other diseases and of the most recent methods applicable to the diagnosis and treatment of them in general; also "The Gastro-Intestinal Clinic," in which all such diseases are separately considered. By BOARDMAN REED, M.D., Member of the American Medical Association, American Climatological Association, American Academy of Medicine, American Electro-Therapeutic Association; Foreign Member of the French Société D'Electrothérapie; Late Professor of Diseases of the Gastro-Intestinal Tract, Hygiene and Climatology in the Department of Medicine of Temple College; Late Physician-in-Chief to the Samaritan Hospital, Philadelphia, etc. Illustrated. Second Edition. New York: E. B. Treat & Co., 241-3 W. 23rd St. 1907.

Dr. Boardman Reed's book, "Diseases of the Stomach and Intestines," is a volume comprising nearly one thousand pages. It consists of in all four parts, divided into eighty-two lectures. It would not be an easy matter to give our readers just as comprehensive an idea of the contents of Dr. Reed's book as we would like without taking up more space than we can devote to our re-

view. In a word, however, we may say that the author in dividing his book as he has done into four parts, considers in part one "The Anatomic, Physiologic, Chemic and Diagnostic Data"; in part two, "The Methods of Examination"; in part three, "Methods of Treatment"; and part four, "The Gastro-Intestinal Clinic."

There is no doubt that during the past decade considerable advance has been made in the diagnosis and treatment of diseases of the digestive system, and the author of this book has successfully endeavored to present to the profession a work that is complete and in every respect modern. Present-day methods of treatment of diseases of the digestive system are very much more accurate and efficient than they used to be, and in order for a scientific reader to enjoy the privileges afforded by present-day methods, it is absolutely essential that he should purchase as recent literature on the subject as can be obtained. Without such methods, it is almost impossible to successfully treat many diseases of the digestive canal. During the past few years a number of books on this subject have appeared from the press; but it falls to the credit of German authors to have produced and have translated into English those books giving the most recent thought on this most important branch of internal medicine. Among those authors belonging to the Fatherland are to be found the names of such men as Ewald, Boas and Riegal, all of whom have considered their subject at considerable length. There are, however, a number of still unsolved problems, in a pathological sense, in connection with diseases of the intestinal tract and these problems are dealt with at some length and most intelligently by Dr. Boardman Reed. We cannot say more regarding his book than to recommend all of our readers who are interested in digestion and nutrition to purchase his work. Its perusal will be no waste of time.

W. A. Y.

The Interrupted Kiss. By RICHARD MARSH, Author of "The Seen and the Unseen," "The Girl and the Miracle," etc. With frontispiece in colors by REX OSBORNE. Toronto: Cassell & Co., Ltd.

The tragedy begins in the opening chapters. A murder is committed in circumstances which readily throw suspicion upon several persons. How the incubus of this suspicion affects them, and especially how it affects the two whose blissful kiss was interrupted on the eve of the eventful night, is told in Mr. Marsh's most effective manner.

Elsie Grahame, the heroine, has reason to place herself under suspicion of being the murderer of her uncle, and her conduct in various trying situations provides some of the most delightful

reading in the story. Her interview with the blackmailer, and her subsequent offer of herself as security for the money raised to meet his demands are convincingly described. But the story teems with interest throughout; there is humor in plenty, dialogue of brilliant quality, and a continuous succession of incident that does not permit a moment of faltering interest.

The Practical Medicine Series. Comprising ten volumes on the year's progress in Medicine and Surgery. Under the general editorial charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume I., General Medicine; Edited by Frank Billings, M.S., M.D., Head of the Medical Department, and Dean of the Faculty of Rush Medical College, Chicago; and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Medical School. Series 1909. Chicago: The Year Book Publishers, 40 Dearborn Street.

The authors of this work have diligently studied the most recent literature of medicine and, under appropriate headings, given the latest findings in the etiology, diagnosis, prognosis and treatment of the more important medical diseases.

Tuberculosis is very fully dealt with, 116 pages being devoted to its elucidation. Pneumonia and other diseases of the lungs are fully dealt with. To diseases of the circulatory organs, 82 pages are given. To diseases of the blood, 62 pages. Infectious diseases, diseases of the ductless glands, metabolic diseases of the kidney are also treated of. There is an index of subjects and an index of authors. It is a volume of 403 pages.

J. J. C.

Conservative Gynecology and Electro-Therapeutics: A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. By G. BETTON MASSEY, M.D., Attending Surgeon to the American Oncologic Hospital, Philadelphia; Fellow and ex-President of the American Electro-Therapeutic Association, etc. Sixth Edition, thoroughly revised. Royal octavo, 462 pages. Illustrated with twelve (12) original, full-page, chromo-lithographic plates, and fifteen (15) full-page half-tone plates of photographs taken from nature, and numerous engravings in the text. Bound in extra cloth. Price, \$4.00 net. Philadelphia, Pa.: F. A. Davis Company, publishers, 1914-16 Cherry Street.

That this well-known book has attained its sixth volume is a merited tribute to its popularity. The author is as zealous as ever in his arraignment of unnecessary major operations in non-malignant gynecological affections, and in his plea for the alternative methods, of which he is such a frank, outspoken

champion, and which he describes in sufficient detail to be comprehended by any one interested. The value of the work is much enhanced by the large number of cases in practice cited as illustrative of his methods and claims. A new chapter is added descriptive of the employment of electro-chemical surgery for removing new growths, of zinc-mercury ionization in tubercular adenitis, and of high-frequency, high potential currents in gynecology. The author has brought his work thoroughly up-to-date, and it is deserving of the most serious and careful consideration.

C. R. D.

A Text-Book of Medical Chemistry and Toxicology. By JAMES W. HOLLAND, A.M., M.D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College. Fully illustrated. Second edition, revised and enlarged. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, \$3.00 net. Canadian agents: Carveth & Co., 406 Yonge Street, Toronto.

The second edition has been thoroughly revised, and includes all the important recent advances in physiologic chemistry. The original work was intended as a text-book for medical students, and was not designed as a text-book in pure chemistry. The aim was to teach the essentials of medical chemistry and to omit the consideration of rare elements and compounds that are never encountered in the study and practice of medicine.

The author has followed the original plan in the second edition, and has made valuable additions in the line of chemistry of foods and their changes in the body, and he also includes the latest improvements in urinary tests.

This is an excellent book for medical students and for those practitioners who wish to keep up with the latest improvements in medical chemistry.

A. E.

The Rectum; Its Diseases and Developmental Defects. By SIR CHARLES B. BALL, M. Ch., F.R.C.S.I.; Hon. F.R.C.S., Eng.; Regius Professor of Surgery in the University of Dublin; Surgeon to Sir Patrick Dun's Hospital; Hon. Surgeon to the King. London: Henry Frowde, Oxford University Press; Hodder & Stoughton, Warwick Square, E.C. 1908. Canadian Agents: D. T. McAinsh & Co., Toronto.

A new book on "The Rectum," by the eminent authority, Sir Charles Ball, has made its appearance. The publishers are Hodder & Stoughton, Warwick Square, E.C.

The subject matter is lucid and comprehensive. The illustrations are original and from life. The morphology, embryology and pathology leave nothing to be desired. Practical details and

methods of examination are not abridged to make room for clinical rareties and statistics. The chapters on prolapse and cancer are not to be surpassed. The work is such as we would expect from so high an authority, and it will repay the practitioner a perusal, and is indispensable to the armamentarium of the surgeon. The high standard of excellence of the author's previous writings on the subject is maintained.

H. A. N.

The Therapeutics of Radiant Light and Heat and Convective Heat. By WILLIAM BENHAM SNOW, M.D., author of "A Manual on Electro-Static Modes of Application, Therapeutics, Radiography, and Radiotherapy," and "Currents of High Potential of High and Other Frequencies"; Editor of the *Journal of Advanced Therapeutics*, and late Instructor in Electro-Therapeutics in the New York Post-Graduate School, etc. New York: Scientific Authors Publishing Co. 1909.

In a very modest little volume of 119 pages, the author sets forth some of the conditions in which the scientific employment of radiant heat and light will be found advantageous. As this is a subject which is engaging an increasing amount of attention, and very little is known about it by the rank and file of the profession, the volume appears at a very opportune time. And as it aims to be a practical aid to beginners, and the author deals with the whole matter in his customary conservative style, the book is sure to attain the popularity it so well deserves. A careful perusal of the book should prove a revelation to those who have not hitherto devoted much attention to the subject, and every general practitioner may find much of interest and usefulness in its pages.

C. R. D.

Accidents and Emergencies. A manual of the Treatment of Surgical and Medical Emergencies in the absence of a physician. By CHARLES W. DULLES, M.D., Fellow of the College of Physicians of Philadelphia and of the Academy of Surgery; Consulting Surgeon to the Rush Hospital; formerly Surgeon to the Out-door Department of the Hospital of the University of Pennsylvania and of the Presbyterian Hospital in Philadelphia, and Assistant Surgeon Second Regiment N. G., Pa., etc., Seventh edition. Thoroughly revised and enlarged with forty-four illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1909.

The mere fact that this small book has already run through six large editions, and is now presented to the profession in the form of the seventh edition, speaks highly of its value. The book

covers in all two hundred pages, and takes up such subjects as, "Obstructions to Respiration," "Foreign Bodies in the Eye, Nose and Ear," "Unconsciousness or Insensibility," "Fits or Seizures," "Injuries to the Brain," "Effects of Heat," "Effects of Cold," "Electricity Accidents," "Sprains," "Dislocations," "Fractures," "Wounds," "Railroad Accidents," "Hemorrhage," "Business and Domestic Emergencies." Of course, as is to be expected, such accidents and conditions are referred to very shortly. The book, however, is practical and will be found very useful not alone to physicians, especially in their first few years of practice, but to medical students, nurses and those called upon to give first aid to the injured. W. A. Y.

Aids to Medicine. By BERNARD HUDSON, M.D. (Cambridge), M.R.C.P. (Lond.); Asst. Physician to City Road Chest Hospital; Pathologist and Registrar to the East London Children's Hospital; Late Casualty Physician to St. Bartholomew's Hospital. London: Bailliere, Tindall & Cox, 8 Henrietta Street, Covent Garden. 1909.

This little work is a neatly gotten up "Pocket Medicine" for students, and is intended merely as a book for revision purposes. It contains about two hundred and fifty pages, is well printed, up-to-date, reliable and authentic, and will be found of great value to students as an adjunct to their larger text-books.

W. K. W.

A House With a History.

Over four hundred years ago, more than two decades before the discovery of America, the first book was printed at The Oxford Press. In Henry VIII's reign Wolsey suppressed the Oxford Press, which was re-established during Elizabeth's sovereignty by the Earl of Leicester at his own cost, and since that date the Press has published a consecutive list of about 19,500 separate books, not including Bibles and Prayer Books.

The Oxford Press does its own paper-making, ink-making, type-founding, electrotyping, stereotyping, letter-press, lithographic and all kinds of printing and bookbinding, to say nothing of employing its own builders, engineers, etc. The Oxford Type Foundry is the most ancient in Great Britain. The University Paper Mills are situated at Wolvercote, near Oxford, where the famous Oxford Paper is made. The headquarters of Mr. Henry Frowde, the publisher to the University, are in London at Amen Corner, close to St. Paul's Cathedral, where the publishing business is conducted. The University Binding House is also in London.

The publications of The Oxford Press have always been

marked by great literary merit, combined with distinguished scholarship. Accuracy and skill have been outstanding features of their publications. It is well-known that a guinea is given to any person who first points out an error in one of the Oxford Bibles. "Scrupulous accuracy and infinitesimal profits" is the way in which the Oxford publications have been characterized by Professor Goldwin Smith.

As an evidence of the high character of the Oxford publications it may be noted that a Grand Prix was awarded to the Oxford University Press at the Paris Exhibition in 1900 for each of its three exhibits:—"Higher Educational Publications," "Book-binding," and "Paper."

In the choice of authors and subjects The Oxford Medical Publications have the advantage of the advice and assistance of William Osler, M.D., F.R.S., Regius Professor of Medicine in the University of Oxford.

The books published by this very old established House can be secured from D. T. McAinsh & Co., 123 Bay St., Toronto.

The Yellow God; An Idol of Africa. By H. RIDER HAGGARD, Author of "The Ghost Kings," etc. With frontispiece in colors, and two half-tone plates by A. MICHAEL. Toronto: Cassell & Co., Ltd.

It is doubtful whether in any of his romances Mr. Rider Haggard has revealed a country more weird, more mysterious, than Asikiland, the home of "The Yellow God." Situated in the heart of "Darkest Africa," it is only rediscovered, through many perils and hardships, by the hero of the story. How he heard of this land of gold, and why he decided to seek it, form a pleasant prelude to the adventures themselves, save for the sidelight thrown on the methods of the exponents of "high finance" in the city.

As regards Asika herself, the presiding genius of this strange land, she ranks with Ayesha and those other royal women of Mr. Haggard's imagination, who allure by their peerless beauty and repel by their inhuman cruelty. Asika's mysterious demeanor, her horrible ceremonials, her imperious appropriation of the hero, her cynical contempt for human life, make her almost supreme among women of mystery in fiction.

Pamphlets Received. Report to the Government of British Honduras upon the Outbreak of Yellow Fever in that Colony in 1905, together with an account of the Distribution of the Stegomyia Fasciata in Belize, and the measures necessary to stamp out or prevent the recurrence of Yellow Fever. By RUBERT BOYCE, M.B., F.R.S. Printed by Waterlow and Sons, Limited, London Wall, London. 1906.

MILK THAT IS BACTERIOLOGICALLY PURE*

THE matter of a pure milk supply is one of the most important problems in city life. So much sickness, especially in the warm weather, is owing to impure milk, and too much altogether of such a product is supplied to the public in Toronto. How many children at this season of the year are laid up with cholera infantum and other intestinal conditions, and which are directly caused by milk that is loaded with bacteria? Only recently a hospital in this city was being supplied with milk which, when examined bacteriologically, was found to contain almost 100,000 bacteria to the cubic centimeter, and that in cold weather; needless to say, that particular milk contract was promptly cancelled. Last winter the Academy of Medicine appointed a Milk Commission to go into the question of milk supply. As a direct result of their untiring work, the Commission laid out certain requirements for the different dairies, and which, if lived up to, would earn for such firms the Seal of the Academy of Medicine, a mark of approval worth going after. Some of the rules laid down were as follows:

1. That the whole herd shall be tuberculin tested *twice* a year.
2. That the milk shall contain 4 per cent. butter fat, with an allowed variation of $\frac{1}{2}$ per cent. greater or less than the 4 per cent. The same may be said of the proteids.
3. That the maximum acidity shall not exceed .2 per cent.
4. That the milk must not be heated, neither must it be frozen.
5. That the Veterinary Inspector shall visit the dairies whenever the Commission desires. The Commission advises that all cows be clipped about udder and abdomen, and that the udder and teats be scrubbed before each milking, not once daily.

The first dairy to live up to those requirements was S. Price & Sons, Ltd., proprietors of "Erindale Farm," the Home of Certified Milk. To this firm has been awarded the Seal of the Academy of Medicine, Toronto, an honor that is a credit to Messrs. S. Price & Sons, Ltd., who have always shown every desire to supply its customers with "nothing but the best."

*Publisher's Department.

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MODERN PLAGUE, CLINICAL VARIETIES, PROPHYLAXIS

BY J. FLEMING GOODCHILD, M.D., M.R.C.S. (ENG.), B.SC.,
PUB. HEALTH (EDIN.)

THE revival of plague dates from the year 1894. Escaping from the western province of Yunnan it reached Canton, an important city and seaport of southern China. The first public knowledge of plague in Canton was in January, 1894, when Dr. Mary Niles was called to see General Wong's daughter-in-law, who was suffering from an inguinal bubo and grave constitutional symptoms. From this remote endemic focus the disease escaped and has spread in lines of advance to numerous countries in the four quarters of the globe. There are two distinct strains of plague, differing in the location of their permanent homes and in the facility for spreading outside the endemic foci. One of the endemic homes of plague is in Western Asia. The strain lodged there does not possess the same power of diffusion as does the Indo-Chinese strain. It was the Indo-Chinese variety which, escaping from its endemic centre in Yunnan, gave rise to the present pandemic. (From 1879 to 1894 not a single year passed without the appearance of plague in some locality distant enough from endemic plague centres; for example, India, Japan, Arabia, Persia, and Russia were thus invaded, but the disease did not develop pandemic proportions.) The startling fact about the excursion of plague in 1894 is that it did not limit itself to a locality primarily visited, but began a series of ramifications that have since become world-wide.

In 1894 plague was introduced from Canton into the neigh-

boring island of Hong Kong, a journey by water of about eight hours, and during this epidemic some 120,000 persons died in four months. In 1895 cases of plague were reported at Hong Kong, Amoy, Macao, and Foo Choo. In 1896 the disease entered Bombay, generally believed to have been imported from Southern China, although it again appeared in Hong Kong, where it has been epidemic ever since. In August, 1896, the disease spread throughout the whole vast territory of the Bombay presidency. In 1897 the disease was still limited principally to the Bombay presidency, with the exception that there appeared some 300 cases in the Punjab, with scattered cases in western and northern India. Also in this year there were epidemics in China, Amoy, Swatow, Hong Kong and Macao, and the island of Formosa suffered an epidemic that caused 500 deaths. In Japan there were a few cases in Nagasaki and Kanagawa prefectures, and in June and July pilgrims brought the disease to the Turkish seaport of Jiddah, with a sequel of 50 deaths.

In the year 1897 an international conference was held at Venice, and measures were devised to render effective and uniform the various procedures adopted by different countries against the threatening extension of plague. During the year 1898 plague extended far from its endemic home and reached the African islands of Madagascar and Mauritius. In 1899 plague was still increasing in India, there being 135,000 deaths from it in all India. China was still suffering seriously. There were epidemics at Kobe and in the neighboring city of Osaka, Japan, and the epidemic was still ravaging the island of Formosa. The Straits Settlements were now invaded, the infection being imported from Hong Kong into the cities of Penang and Singapore, where it became epidemic, and 40 persons died of plague in the seaport of Bashire, in Persia. In Egypt also there were 100 cases, the disease being confined to Alexandria; also 100 cases occurred at Bassan on the French ivory coast. There were cases also at Honolulu, marking the invasion of the Hawaiian Islands. In this year, too, Europe was invaded, the disease having visited Portugal, Russia, and Austria. The same year the disease reached the continent of South America, for at Assumption, Paraguay, there were over 100 cases. In Brazil, at Santos, 40 cases, sporadic cases at Sao Paulo, and the disease was present at Corrientes, Formosa, and in Argentina.

In 1900 plague was present in the four quarters of the globe: Europe, Asia, Africa, North and South America, and Australia. Australia became a plague centre in that year, and has lodged the disease ever since. At Sydney, New South Wales, there were three hundred cases in that year, and the disease has spread to Victoria and Melbourne, and in South Australia to Adelaide, and in Western Australia to Freemantle, and in Queensland to Brisbane; also

at Auckland, New Zealand, plague was reported present. In this year Glasgow, Scotland, developed 32 cases, with 8 deaths within two months. Four cases and two deaths were reported at London, England, and a single case at Cardiff, Wales. A case also occurred in Germany. The Government of Astrakhan, Russia, afflicted the previous year, was again the seat of an epidemic. There was an epidemic in the Government of Samare, and the most notable fact in the history of plague in the western world was the appearance of 22 fatal cases in San Francisco, Cal. In South America there occurred in Brazil about 600 cases at Rio de Janeiro, and the disease was present at Sao Paulo, Santos, Nictheroy, and Petropolis. In Argentina epidemics prevailed at Buenos Ayres and Rosario, and there were cases at Paraguay, at Assumption and Conception.

Plague having established an abode in every continent, the future history of the pandemic is largely a chronicle of intra-continental expansion. We will, therefore, not follow the lines of advance further, but merely pass over the next six years and state something of the more recent prevalence of the disease.

Last year 1,400,000 cases, with 1,200,000 deaths, are reported for India, and plague has been present in a more or less epidemic form in China; is scattered widely in Japan; present also in Persia, Arabia, Siam, and Straits Settlements; in Egypt, at Alexandria, Ismailia, Port Said, Suez, and nine provinces. African territory is invaded, Tunis, Algeria, British East Africa, and the epidemic in Mauritius has completed its tenth year and an epidemic is prevailing in Zanzibar. Plague is still present in Australia, with epidemics in Sydney, Brisbane, Cairns, and Port Douglas. New Zealand still lodges the disease at Auckland, and an epidemic of small proportions has occurred at Honolulu. Plague is still present in the Astrakhan Government, Russia. Two more cases in 1907 appeared in Glasgow and many epidemics in different parts of South America. Two deaths from plague in Trinidad. In May, 1907, a case from a tug-boat died at the Marine Hospital at San Francisco, Cal., and during the calendar year of 1907, 156 cases with 76 deaths occurred at San Francisco. There were also a few cases at Oakland, Point Richmond, Berkeley, and at Seattle, Washington, three fatal cases occurred in October. During the present year, 1908, Ecuador and Venezuela, in South America, and now the disease has extended to Peru, and in Africa to the British Gold Coast, and in the Azores to the island of Terceiria. These four countries, added to our list, make a total of fifty-three countries infected since the primary outbreak in China in 1894. Such is a brief outline of the present pandemic of plague.

In the long history of plague pestilences we find that plague

as often as it has made its appearance in Europe has been imported. A study of this history teaches us that it was repeatedly a single plague-stricken person who infected a country previously spared, and that without exception every plague epidemic, even when the manner of its importation was unknown, rose slowly and gradually from single isolated cases of illness. The recognition of first cases is, therefore, of incalculable importance, and can even be the preliminary condition of an early and effectual prevention of further spread of the pestilence. Plague occurs in most cases suddenly, and takes its course, as a rule, in from three to five days, in the form of a general indisposition. There are either inflamed swellings of the outer lymphatic glands or the formation of a pustule, or a carbuncle on the skin, or inflammation of the lungs, that is, at the commencement of the illness, during the course of the same, or these are only observed on the corpse. The above is a general description in the roughest outline. The sickness attacks persons of both sexes, of every age and all classes. It generally first appears in the houses of the poor and indigent, and develops itself worse there. The pronounced illness is often preceded for hours or days by preliminary symptoms, such as fainting, depression, increase of thirst, headache, backache, and loss of appetite (ordinary symptoms of fever). The commencement is frequently quite sudden. There is stinging, burning or dull pains at the spots where carbuncles or gland inflammation will shortly develop, or tightness and pain in the chest, and later there are symptoms of shivering, chills, and fever. The commencement of the illness is almost invariably accompanied by a giddy feeling in the head, which develops into a severe state of helplessness. This feeling then creeps over the whole body and shows itself in a numbness of the limbs, which are little under control; nausea or vomiting often accompanied by giddiness and weakness of the heart with collapse is very common. When the patient comes under the treatment of the physician a serious case of illness has, as a rule, developed, and the patient is found staring into vacancy with a swollen, flabby and expressionless face, the conjunctivae being quite red, the speech slow and hesitating, the gait unsteady and swaying, and the sick person gives a general impression of being intoxicated. This impression is heightened sometimes by scratches and bruises covered with blood found on the skin of the patient's face and limbs. These are caused by the sick person tumbling about. The tongue is white and dry, as if coated with chalk, though sometimes raspberry red, with enlarged papillae, the skin is dry over the whole body, and very hot, with the exception that the limbs are usually cold and covered with clammy sweat. Respiration varies, often it is not very rapid, pulse as a rule is rapid, the radial pulse often dirotic and thready. The patient when put to bed soon

falls into a slumbering weakness. He mutters or talks wildly, rolls about from side to side, or tries to rise and wander about again, or he may rave furiously. He makes attempts to escape, acting under the idea that he must go home, go to business or quench his thirst. He is more or less delirious. In most cases on careful examination the local seat of illness can be found during the first hour of attack, and thereby an accurate diagnosis can be made. A freshly developed swelling of the glands, a skin pustule, or the preliminary symptoms of pulmonary inflammation, belong to the completed description of plague, which therefore appears in three main forms, glandular, skin and pulmonary, with, of course, the septicemic form, which is but an exceedingly virulent type of the glandular form. In this septicemic form, the lymphatic glands show no special enlargement during life, and consequently the bubo is absent, but after death the lymphatic glands are found to be generally affected, being somewhat enlarged and much congested. In this form of plague, bacilli early invade the blood in large numbers, and are easily detected in it. The chief characteristic of this type is its rapidity, the patient being profoundly affected by the amount and strength of the poison received. This form is usually ushered in with high fever, but at times there is no power in the patient for reaction and the temperature does not reach 100 deg. F. The countenance is pale and expressionless, it is apathetic. There is extreme nervous prostration, muscular weakness, delirium, picking of the bed clothes, stupor and coma following quickly in the course of the disease and the patient dies on the first, second or third day. In those cases there may be bleeding from the nose, kidneys, and bowels. Plague in the intestines or the stomach has, so far as I know, only been found in animals up to the present. In glandular plague or bubonic plague (by far the most prevalent form of the illness) the formation of the bubo is pathognomonic. This takes the shape of a small or large, rapid or slowly developing inflamed swelling of one or more lymphatic glands and surrounding tissue. Any exterior lymphatic gland can form the seat of the disease. In the great proportion of cases the bubo arises in the abdominal bend or in the upper femoral triangle. It also occurs frequently in the arm-pits, or, in the case of children, on the neck. In isolated cases the glands at the back of the head, in the elbow bend (supratrochlear), in the hollow of the knee (popliteal), and, in a few incidents, the parotid glands are the seat of the inflammation. Sensitiveness to pressure of the bubo is generally much greater than spontaneous pain. The patient does not undergo much suffering if the portion of the body over which the bubo is developing is kept at rest and tension relieved by relaxation of the muscles putting the limbs in an easy fixed position. The buboes are extremely

sensitive to the touch and to pressure, and though easily missed by the patient when small, a careful examination by the physician will reveal the presence of swollen, infected superficial glands, however small in size they may be. The most common site is the groin, the next is the arm-pit. Oftener groups of neighboring lymphatics become infected. If the patient lives for seven or eight days the bubo either begins to resolve or shows signs of softening, or goes on to suppuration and sloughing. Examination of the lymph and blood of the glands and buboes will show large numbers of plague bacilli. A gland or bubo may be punctured and a small quantity of contents drawn off in a sterilized pipette for bacterial examination.

Pulmonary plague, which is very prevalent in some pestilences, but which generally yields the first place to the glandular form, takes its course almost exactly like ordinary violent catarrhal and sometimes lobar pneumonia. In some cases it cannot be distinguished from these pulmonary inflammations without a bacteriological investigation of the expectoration, even in spite of the serious general symptoms, for beyond cough and fever and a prostration, which is exceptionally severe and exceeding that which ought to be expected from the small amount of lung mischief discernible, there are few signs to raise suspicion that the disease is plague. The sputum has not the glairy, viscid, rusty character of acute pneumonia, though on the clothes it may readily be mistaken for this. Moist sounds are heard at the base of the lungs and over the pneumonic patches, but, however hurried the breathing and quick the rate of pulse, there is not that disproportion between the pulse and respiration ratio which obtains in acute pneumonia. The symptoms become rapidly worse, the patient becomes delirious, there is gradual failure of the heart's action with or without coma, and death occurs on the fourth or fifth day or earlier. This form of plague, besides being the most infectious, is also the most fatal. This form owes its infectivity to the fact that the sputum frequently contains almost a pure culture of bacilli, which get on the handkerchief, clothing, bedding, articles of furniture, as well as on the floor of the patient's room, and it is interesting to note that pain, tenderness, and enlargement of the lymphatic glands in the inguinal, femoral, axillary and cervical regions are absent.

The cutaneous type is rather rare. In this form the spots on the skin commence by appearing somewhat as a flea bite, with symptoms of violent pain at a point which becomes brown to about the size of a split pea, and little pustules form on these areas. These generally leave a scar. This little spot either forms into a pustule or the tissue underneath becomes solid and hard, changing later on into a deep-seated carbuncle, and ultimately into a gangrenous abscess, and one can often see inflamed lymphatic vessels leading from this point to the neighboring lymphatic glands.

I have tried to briefly describe the three main clinical varieties; a more extended classification is that of Dr. Cantlie, who has grouped the several varieties as follows: (1) Bubonic, (2) pneumonic, (3) intestinal where a flux occurs consisting of diarrhea at the onset, to be followed later by the appearance of blood, mucus, and epithelium in the stools (4) the cerebral, in which the mucous symptoms are very pronounced, and the delirium is apparently suicidal in type and sets in early. In this type there is much muscular twitching, tonic and clonic spasms, especially in children, and there is early loss of consciousness and deafness; (5) puerperal, where there is hemorrhage from the uterus and miscarriage as prominent symptoms; (6) toxic, rapidly fatal cases; (7) typhus, where there is close resemblance to typhus fever (this type is often practically identical with typhus fever); (8) *pestis ambulans*, a very mild type, and *pestis minor*, which is often a forerunner of the more serious forms. Some authorities rather doubt whether this more or less simple adenitis is really plague.

The bacillus of Kitasato is the causal agent in all forms of plague. It is found in the blood, the excreta and various organs of plague patients. It is present in abundance in the sputum of patients with the pneumatic form of the disease, and in the buboes, but after suppuration in these is frankly established it is displaced by other organisms. It may be voided in the vomit, and is present in the urine and feces in advanced stages of the disease, and is with difficulty recovered from the blood, except in septicemic cases. The period of incubation is from thirty-six hours to eleven days, but generally under five days. This period is not characterized by any symptoms, and is apparently to be regarded as non-infectious.

At the time of the outbreak of plague in Glasgow, in 1900, I was an assistant in the Health Department there, and had opportunity of observing the several varieties in the cases which occurred during that epidemic. All the cases had certain groups of symptoms in common. There were the initial symptoms of headache and general malaise, with nausea and vomiting. Following on these there was an almost uniform complaint of pain in some one or other group of the lymphatic glands. In the milder cases the patient looked ill, out of all proportion to the amount of fever present. The buboes exhibited all degrees of severity, from the single slightly enlarged gland to the large and intensely inflamed mass of glands seen in the case of the solitary bubo, where, in one case, the redness of the skin and the edema of the neighboring tissues extended to about nine inches from the centre of the disturbance. The fever varied from the slight varieties, not exceeding 100 deg. F. to the severe fever of the true bubonic type of 104 and 105 deg. and over. In these more severe cases the

fever ran something like that in the better known typhus and typhoid fevers. Crisis was present in all the severe cases and occurred from the twelfth to the twentieth day. A description of the clinical aspect of one of the first cases that came under our notice may be of interest. This case has been so well described by Drs. Brownley and McClure that I cannot do better than quote their report of it, which appeared in the *Lancet* of September 8th, 1900:

"Patrick Malloy, aged 21, was discovered and admitted to hospital August 25th. On admission this patient looked extremely ill. The face generally was of a greyish color, with a more marked pallor about the mouth. The expression was distinctly anxious, there was marked knitting of the eyebrows, the eyes were widely open, and the conjunctivae were slightly congested; the respirations were slow, some eighteen per minute; the skin was hot and dry, and was covered with a faint purplish mottling most marked across the lower part of the abdomen, the arms and the buttocks. The tongue was moist and covered in the centre with a thick greyish fur, while the edges were clean and red. There was no congestion of the fauces. There was in the upper part of the deep cervical chain a swelling composed of one moderately enlarged and several slightly enlarged lymphatic glands. The tissues surrounding these were markedly infiltrated, and the skin was reddened and edematous. Manipulation of this swelling was evidently very painful. There was no enlargement of the glands in the right cervical region, or of the superficial chain on the left side. The right axilla was filled with a large mass evidently composed of lymphatic glands embedded in edematous cellular tissue. Here, again, the skin was red and edematous and movement of the arm, or even the lightest palpation gave rise to exquisite pain. In the left axilla a few glands were slightly enlarged, but most tender. No enlargement of glands was apparent in either groin. Temperature was 103.6. The pulse was very soft and easily compressible and numbered 128 per minute. The lungs revealed nothing noteworthy on further examination. The cardiac sounds were pure, the first sound being rather weak. The abdomen was not distended and was neither painful nor tender. There was no apparent enlargement of either liver or spleen. Exploratory puncture of the glands of the axilla was performed, and an immediate examination of films prepared from the blood withdrawn revealed the presence of considerable numbers of bacilli, morphologically identical with the plague bacilli. On August 26th the general condition of the patient remained much the same, though respirations were more rapid, numbering 28 per minute, but the local conditions have undergone marked alterations. In particular the lymphatic glands of the left side of the neck before mentioned were much more

enlarged, and the superficial glands on that side were now considerably involved. Late in the afternoon the glands in the left groin were easily palpable and slightly tender. The edema in the right axilla was more extensive, involving the anterior border. The spleen was found to be enlarged to percussion, though not palpable below the costal margin. The temperature at 6 p.m. was 102.4, and at 6 a.m. 104.4. The pulse in the morning was 112, and in the evening 132. On this evening the glycerine agar cultures made after puncture of the glands on the 25th and incubated for 24 hours at 37 deg. C. were examined. There was a faint surface growth composed of minute, whitish translucent colonies. Cover glass preparations were made from this growth and stained with an aqueous solution of gentian violet. These showed the presence of a pure culture of a short bacillus with rounded ends, tending to run in pairs, and showing well-marked bipolar staining. The bacillus was decolorized by Gram's method. The character of the culture and the morphological appearance of the bacillus and its staining reaction confirmed the diagnosis made from the examination of the films on the 25th that the organism under consideration was the bacillus pestis. On August 27th the local conditions had, if anything, advanced, but the general condition of the patient was rather better. There was a little less mental obtuseness, though it was still with great difficulty that he could be got to show his tongue. This improvement, however, was not maintained. By midday the patient was cyanosed and the pulse was weaker. He sank rapidly and died at 3.35 p.m. On making a post-mortem examination the only additional glands found enlarged were those in the upper mediastinum."

In regard to the prophylactic measures it will, I think, suffice to tell of the work that was actually done along this line in Glasgow at the time of this outbreak. The operations and mode of procedure were detailed by our chief, Dr. A. K. Chalmers, and as two special assistant doctors for plague work were taken into the Health Department, we were able to carry the work out very thoroughly, and as is well known, the after-results bear evidence as to this. Immediately the diagnosis of plague was made a meeting of the Health Committee of the corporation was held, and, by advice of Dr. Chalmers, a considerable area surrounding Thistle Street, the scene of the plague outbreak, was deemed infected. It was then reported that plague existed in the district with boundaries well outside of the area in which the cases had been found. It was explained that it would be desirable to use special sanitary measures in order to prevent the spread of the disease. The following measures were immediately taken:

1. In each "land" from which a case was removed, the lobbies, staircases, common passages, and each house was disinfected and

cleansed by the sanitary department, and the cleansing department made special arrangement for the free removal of garbage and hosing out the courts and areas.

2. The infected district was defined as a special cleansing area, and arrangements were made for a thrice weekly emptying of ash pits, lime washing thereof, hosing of courts, special removing of rubbish, etc.

3. The medical inspection of the district was organized and carried out by the Sanitary Department, with the assistance of two physicians added to the staff, and inoculation with anti-plague serum was offered free of charge, where deemed necessary.

4. A special sanitary inspector for dirty houses and stairs, and over-crowding of houses was instituted.

5. Rat catchers were employed for service within the said district.

6. Hand-bills were posted within the district directing the attention of the public to the fact that immediate medical attention could be had from the Sanitary Department, on communicating with it through the nearest police office or station. As members of the health staff we now had to examine all infectious and suspected cases in the above-mentioned area. Every infected house was denuded of its clothing and bedding, the furniture was thoroughly fumigated with sulphurous acid, the walls and ceilings white-washed, the floors and woodwork washed with carbolic acid solution, and this was followed by a thorough disinfection by formalin. Wearing apparel was treated with a solution of corrosive sublimate, and all beds were either treated in the steam disinfector or else destroyed. Staircases, landings, and lobbies leading to infected houses were white-washed, and much chloride of lime was used. All the ash-pits and privies of the city were lime-washed. Two reception houses were put into use, and later another was added, where contact cases were sent and kept for observation for twelve days. These proved of great value, for we detected in these several cases of plague. All physicians and nurses connected with the work of the plague hospital and health staff were inoculated with 20 cubic c.c. of Yersin's serum, also all contact cases were treated in a similar manner. Haffkin's prophylactic was not used as most of us had been in contact with the cases, and especially as there is considerable constitutional reaction when this serum is used. The further prophylaxis we used at the hospital, reception houses, and private houses, up to the time the patients were removed to hospital, and the contacts taken to the reception house was to see that an acid solution of 1-500 perchloride of mercury was in plenty. All sputum, urine, and excreta were received in vessels containing this, while a solution of 1-1000 strength was used in vessels for soaking soiled clothes, disinfecting cups, spoons,

etc., for washing the doctor's and nurses' hands after handling the patient. Nothing from the patient was discharged down drains without being thoroughly mixed with an abundant quantity of this disinfectant, and retained in it for two hours. This, of course, was principally to prevent rats in the sewers from becoming infected and carrying the disease, and it was quite important that we should not put plague bacilli into the River Clyde. Where deaths occurred a sheet soaked in strong perchloride solution was wrapped round the body and carbolized sawdust put into the coffin. Of the ships that came into the harbor, we examined only those from India, or from plague-stricken ports. Our examinations consisted of a rather severe pinching and squeezing over the gland area in the axillary and inguinal regions of the members of the crews. Then for departing ships we conducted a similar examination and disinfected the fore-castle and crew's quarters to give the ship a clean bill of health. Of course, if any case of plague had been present on any ship a much more thorough disinfection would have been necessary.

There were many other details observed and carried out, but it is unnecessary for our present purpose to go into a further description of them.

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X-RAYS AND CANCER

BY CHARLES R. DICKSON, M.D.,

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NOTHING very novel or even original will be found in this quite unpretentious contribution to a most interesting subject, no new or startling theories are to be propounded, no discoveries set forth, but only a few thoughts merely, which have probably occurred to everyone who has employed the X-rays either as a diagnostic or a therapeutic agent at all extensively, or who is familiar with the literature on the question.

There are perhaps very few deviations from the normal condition about which we know less than we do about cancer, in spite of the vast amount of research which has been expended upon the subject, and there are few diseases which more frequently defy our most cunning devices and resist our best efforts to combat. Fortunately, we are not always beaten in the struggle.

Can the X-rays throw any light upon the subject of cancer? Possibly they can. Certainly they suggest to us ideas which may be of some value.

In the early days of the use of the X-rays we knew very little about them beyond the fact of their power to penetrate tissue more deeply than other rays with which we were more familiar. Our attention was chiefly directed to their ability, not only to penetrate tissues in other respects opaque to light rays, but also to produce certain changes in chemical substances after having passed through such tissues, such as the ordinary changes produced on a photographic plate by the action of light. This power we utilized in taking radiographs for diagnostic purposes.

Another characteristic noted was the production of fluorescence in certain substances, such as calcium tungstate and platinum-cyanide of barium, after passing through otherwise opaque tissues, and as certain portions of the tissues, notably denser portions such as bone, absorbed a relatively larger proportion of the rays than did the softer tissues such as flesh, fluorescence was more actively excited by rays which had passed through flesh merely, than by those which had passed through bone.

Acting upon this characteristic, screens were devised coated with a fluorescing substance, and were held against such region of the body as we desired to examine, while the rays were allowed to pass through this region from the opposite side; the parts of the screen opposite bone fluorescing to a lesser extent than those opposite flesh only, an apparent shadow of the bone was cast upon the

screen, due to the difference in intensity of the fluorescence, just as the parts of our photographic plate lying under fleshy portions of the body were more vigorously acted upon by the penetrating X-rays than those parts lying under denser tissue, thus permitting a contrast between bone and flesh when the plate was developed.

For convenience in using these screens the deadly fluoroscope was contrived, the screen active side uppermost constituting the bottom of the apparatus. The sides of the contrivance shutting out all extraneous light from the eyes of the observer, permitted him to contrast the varying degrees of intensity of fluorescence on the screen to the greatest advantage, and as the fluoroscope was much simpler to use, and was altogether more convenient, and often permitted a much more rapid diagnosis in such cases as suspected fracture, for example, than did the taking of a radiograph and the developing of it after taking, it was very popular with the early users of the X-ray.

We knew that we were dealing with an agent of great power, but we did not realize that it was capable of exerting any deleterious influence upon tissues exposed to its action, in fact such effects were ridiculed by many; certainly no one thought for an instant of trying to protect himself from any possible injury.

One of the earliest results of repeated exposure to the action of the X-rays that was noticed was the effect upon the hairs of the back of the hand. X-ray machines in the early days were frequently exhibited about the country as curiosities, and the enterprising exhibitors coined many a penny by permitting one to look through their hands, as they expressed it, by means of the mysterious fluoroscope, and as the back of the hand was usually the part nearest to the Crookes' tube, that was the part first to be affected.

Such exposures were for a very brief period only, but they were frequently repeated, so that the total amount of exposure during a day was quite considerable.

When X-ray machines were first manufactured for the medical profession the salesmen were naturally enough very zealous in setting forth the merits of their respective apparatus, and here again the hand was the part usually selected as most convenient to illustrate the degree of penetrability of their tubes, or some special feature of the apparatus. Such salesmen usually paid the penalty before long. In the case of some extra zealous ones, the face was likewise markedly affected.

But the showman and the salesman were not the only victims of misplaced confidence, for about the same time several practitioners, who were employing the X-rays as a diagnostic agent, had some rather disagreeable and alarming experiences with patients who were subjected to prolonged exposures to the X-rays in the endeavor to secure clear and definite radiographs in doubtful conditions.

Among the untoward results experienced by such patients were a dermatitis of varying degrees of severity, stubborn and resistant to the hitherto accepted methods of treatment, necrosis manifested by ulcers involving varying depths of tissue, and likewise most obstinate in healing, and many other varieties of the now well-known so-called X-rays burns.

Nor did the medical profession itself escape many a bitter personal experience of the power of X-rays to not only penetrate tissues, but also to act in an alarming manner on such tissue under certain conditions.

Many of the profession were in the habit of estimating the degree of penetration possessed by the tube by holding the hand in front of the excited tube and viewing the "shadows" of the bones through the fluoroscope. As this method was very easy to carry out, and the density of the shadow of the bones was a capital criterion of the condition of the tube, the manœuvre was of frequent occurrence.

Shortly, however, it was noticed that the skin upon the back of the hand so used became dryer, in fact often quite leathery in appearance, and that small warty growths were to be seen, scattered about the surface; and the same things happened to the other hand which held the fluoroscope before the tube. Sometimes an acute dermatitis was the first symptom of trouble, but it was not always necessary to have a dermatitis before our attention was called to these things.

Much else happened to the luckless operator, and presently men began to lose a finger, or a hand, or an arm, and then some one died as a result of being exposed to the long-continued, frequently-repeated irritation of the X-rays. Gradually the death list grew, and several men of eminence in the medical profession, and some leading manufacturers of apparatus, were numbered among the victims, martyrs to the sacred cause of science.

After a number of practitioners had become affected to a greater or lesser extent by the X-rays, they began to compare notes; much was also written upon the subject, and a great deal of valuable information was thus collected, which is now a matter of record.

It was found that everyone was not equally affected by exposure to the X-rays, but that the degree of susceptibility to the influence of the rays varied considerably with different individuals, that there was much disparity in the rapidity with which untoward symptoms appeared and developed, and that some apparently recovered more rapidly than others, that all sufferers did not succumb, but many years were necessary to accomplish recovery, and that even then some of the results were still apparent, that the parchment-like appearance of the skin persisted, that the nails

were still striated, but that apparently there had been an arrest in the progress of symptoms, and often a marked amelioration of former conditions.

The symptoms suffered by those who succumbed were the customary symptoms of cancer, the course run by the disease was the customary course of cancer, hence it is not to be wondered at that many operators have reported the development of epithelioma on the sites of X-ray dermatoses, and also noted the peculiar tendency to hyperkeratosis, similar to the senile keratosis, and like it with a marked tendency to epitheliomatous degeneration.

Much has been written upon this very interesting subject, especial credit being due to Freund, the father of Roentgen therapy, for his laborious research which has been so well set forth in his "Radio-therapy," a work which has proved a veritable gold mine for many an author since.

Pusey and Caldwell, in their "Roentgen Rays in Therapeutics and Diagnosis," also present a lot of statistics, citing amongst others E. A. Codman, and giving a table collated by him, showing injury from an exposure of 0.08 of a minute at one inch distance, while in another instance it took 240 minutes at one inch distance. Another table by Codman shows that while in some instances signs or symptoms were noticed within twenty-four hours, in several cases none were noticed until after four weeks or more had interposed. The same authors cite Kienbock as stating that the mucous membranes react most rapidly to the ray.

Among many others who have collected statistics bearing upon these questions is Kassabian, himself a sufferer for some time from the results of excessive exposure to the X-rays. In his work, "Electro-Therapeutics and Roentgen Rays," he has much of interest, and gives us a partial list of those who have paid the penalty of excessive zeal and lack of precaution in studying and utilizing the action of the rays.

But there is a brighter side to the story, for the occurrence of dermatitis and epilation incident to the use of the X-rays in diagnosis led to their employment in therapy, although the price paid in dead, maimed and disfigured practitioners seems a pretty high figure for the discovery, valuable as it has proved.

Much theorizing has been done as to the actual physiological effects of the X-rays. In his work on "Radiant Heat and Light," William Benham Snow reiterates a theory which he set forth in an earlier work on "Static Electricity," of "One effect in particular, which accounts for all, the contraction of cell protoplasm. . . . Whether the action is the influence upon the end plate of the neurons or upon the individual cells, it would be difficult to assert; but the latter is most probable."

In the same work Snow summarizes the results of the action

of X-rays based upon clinical observation in a manner well worth quoting somewhat at length:

"The effects of the X-rays upon the normal tissue are (1) to induce normal activities, due to the vibratory effect of the rays, or of the ether in the presence of the rays. (2) That these effects with short exposures at proper distances with high vacuum tubes induce activity of normal tissue cells, which, in some cases, supplant abnormal tissue elements without evidences of disintegration. (3) That exposures destroy only the abnormal tissues unless they be too prolonged. (4) That abnormal tissue thus exposed breaks down and disappears through the natural channels of absorption or by sloughing. It has been shown in the writer's experience that tissues of low vitality are always the first to break down.

"It is probable that the vitality of all tissue is lowered by cutting off the blood supply, as well as by inhibition induced in the cells. *Naturally*, under such circumstances, tissues of low vitality are the *first* to break down. It is also well established that the tissues of debilitated patients do not resist the destructive action of the rays as do those of normal individuals, which confirms the theory.

"It has also been demonstrated that malignant tumors in the aged or infirm are more likely to soften and break down than in normal individuals, which confirms the view that when, for any reason, the tissue resistance is lowered the tissues break down. The violent toxemia occurring under such conditions is not due to extension of the malignant process, but to the autoinfection arising from absorption of toxins present in the broken-down structures.

"This effect upon circulation and nutrition when employed to the extent of destroying malignant growths is at best a dangerous one, and demands careful attention to the management of details and a knowledge of their consequences.

"The cumulative action is a striking feature of the effects of the rays, and demonstrates the more or less persistent condition of contraction which follows a series of exposures and explains the diminished metabolism after a long exposure or series of exposures.

"It would seem, therefore, that the logical explanation of the action of the X-ray when nearby, prolonged, or frequent administrations are given is, that the exposed structures contract at the expense of nutrition and produce, when carried to a certain degree, necrosis of the part. This theory accords with the therapeutic results obtained from nearby and prolonged exposures.

"The stimulating or tonic effects of the Roentgen ray, induced by short exposures or with a high-vacuum tube at distance of six-

teen to twenty inches from the anti-cathode, is probably due to the disposition of vibratory influences of the rays both to overcome local stasis, restoring tone to the muscular coats of the arterioles, and, at the same time, to induce a more active local metabolism."

These views seem very rational and afford us a good working hypothesis; they are probably nearer the truth than any that have yet been set forth, and for that reason are presented at length.

The X-rays when used in moderation may have a tonic or stimulating effect, but, like many another stimulant or tonic, if the use is prolonged, or often repeated, the action is markedly that of an irritant, and an irritant of a very pronounced character. It is chiefly in the role of an irritant that the services of the X-rays are sought therapeutically, being too unsafe a remedy to be trusted as a stimulant, except to a very limited extent.

Without further delving into the subject many very suggestive ideas thrust themselves upon one in this brief and altogether incomplete consideration of the ray's work, only some of which must suffice for our present purpose.

For instance, we have a certain definite form of irritation, causing a well defined—for the most part—train of symptoms, symptoms most closely resembling those of cancer; and as if this were not enough, we find dermatoses caused by this irritation prone to develop epithelioma; and we likewise find as a result of this irritation, hyperkeratoses with a marked tendency to epitheliomatous degeneration. These circumstances point strongly in favor of the irritation theory as to the cause of cancer, and should aid us still further in our study of the cancer problem, for the behavior of the tissues under the ray should teach us much concerning the behavior of tissue affected by cancer.

The testimony of the tissues would seem to favor the theory of a protective mechanism in the body, striving to ward off cancer, and to repair its ravages. It should afford support also to the observations concerning the arrest of malignancy on cessation of the causative irritation. And it should give us a clearer idea of what we may hope to accomplish in the way of treatment.

At the present time our efforts in using the X-rays as a therapeutic agent are largely restricted to the attack upon superficial growths, many of which are distinctly amenable to such measures. But even in the case of the deeper seated growth we sometimes retard its spread, or even cause it to diminish markedly in size by judicious treatment, and add very greatly to the comfort of the patient, perhaps prolonging life.

CANCER OF ESOPHAGUS

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Mr. Chairman and Fellows,—I feel some diffidence in presenting these notes, as you know cancer of the esophagus is by no means a rarity, McCrea giving 9 per cent. of all cancers esophageal, Von Hacker 5.3 per cent. Since the more general use of the X-rays and esophagoscope many cases are being brought to light that would have been overlooked without their aid. Still in this particular case some interesting features prompted me to report it, and to add a few comments thereto.

H. C. A., Cuban, 37 years of age, was referred to me for treatment January 2nd, 1909. His father died at 43 years of age from probably epithelioma of the lip, as the history was that of a sore on the lip, followed by swelling of glands of neck. Family history otherwise negative. Patient born in Cuba, of Cuban parents. He has lived there and in Florida up to twelve years ago, when he came to Canada.

Had smallpox at three years of age. When about the age of twelve years he received a blow in the region of the stomach from a baseball bat, which caused vomiting and pain in the stomach, lasting two or three days. He contracted gonorrhea seventeen years ago; denies any history of lues; was never addicted to the use of alcohol; a moderate smoker of cigars, and is unmarried.

Patient has never complained of any stomach trouble up to four months ago, when he felt a slight ill-defined pain in the xiphoid area, usually in the morning before rising, occasionally during the day, but never referred to the taking of food. It is dull in character, lasting about half an hour, and often relieved by passage of gas. For nearly three months he has noticed a sensation after eating, as if the food did not quite reach the stomach, and then returned a short distance, but was never expelled.

At first only solids, but lately fluids also occasioned this symptom. His appetite always excellent. No great thirst. Occasionally he brings up a little mucus, but no blood. Has lost twelve pounds during the last four months. Patient has dark brown skin, shows the scars left from smallpox, principally on face and neck; is somewhat anemic; has bright, intelligent expression; height, 5 ft. 5 in.; weight, 122 pounds; gait, easy and steady. Speech and voice, natural. Pupils are equal and react regularly. Visual fields normal. Patellar reflexes are present and equal, and he can stand quite well with his eyes shut. No ptosis, nor hoarse-

ness. Pulse, 75 regular and soft; temperature, normal; urine acid, 1030, no albumin nor sugar; blood, hemoglobin, 55 per cent.; R. B. C., 4,012,000; W. B. C., 7,600.

Examination of the thorax and abdomen negative. No supraclavicular lymph nodes apparent. There is a soft fibroid situated in left nares anteriorly. Teeth and buccal-mucous surfaces healthy. Larynx and vocal cords natural. Tongue, pale and slightly coated posteriorly. No odor to the breath.

The only subjective symptoms are the indefinite pain, and the sensation after eating of the food returning a short distance, as mentioned above. He has never been able to make himself vomit, although he has tried on several occasions.

On January 4th, 1909, at 8 a.m., patient took a breakfast of one soft boiled egg, some rice, a cup of tea, and at 9 a.m. I passed a soft rubber stomach tube, size 33, French, the distance of 53 cm. from the teeth-line, but nothing came out through the tube by suction or otherwise; a small quantity, perhaps 2 cc. of yellowish chyme mixed with mucus ran out alongside the tube which, on analysis, showed free HCl. Water was then poured into the tube, which syphoned out unchanged. This was repeated several times with the same result. Only about half a pint could be made to enter tube each time. I therefore concluded that the tube had not entered the stomach, but was either in a diverticulum, or curled up in a dilatation of the esophagus with an obstruction below. The latter proved correct, for on withdrawing the tube, the kinked end straightened out as it reached the upper part of the throat. A soft rubber tube, No. 24 French, tapering at the point, was then introduced, and after some manipulation slipped into the stomach. About 100 cc. of brownish-yellow chyme was expelled through the tube, analysis of which showed free HCl; total acids, 10; no lactic acid. Stomach was then washed out with saline and tube withdrawn. The patient was given a glassful of water, and after an interval of five minutes the large soft tube was again passed, but no water returned. The tube on this occasion also became kinked, and could not be made to pass the obstruction. The water, however, had passed into the stomach. The secondary deglutition sound was tested, and proved not to be delayed. Neither succession nor respiratory sounds could be elicited.

January 6th at 8 a.m. patient given an Ewald breakfast, and at 9 a.m. the stomach contents were obtained, consisting of about 100 cc. of brownish chyme, with a few particles of bread. The analysis made by Dr. Rolph, of the University Laboratory, showed free HCl₄; total acidity, 17; no lactic acid; no Oppler-Boas.

On withdrawing the tube two or three drops of blood were noticed; a smear taken from the end of the tube showed red and white blood cells, also some flattened epithelium.

January 13th, in consultation with Dr. Cummings, the patient

was given a wafer of bismuth and examined with the X-rays. The bismuth was seen to lodge just above the cardiac orifice of the stomach. A larger quantity of bismuth in water was afterwards administered, and the fluoroscope revealed the presence of the bismuth in a pear-shaped dilatation of the esophagus, with the larger end downwards; the dilatation appeared to be about four inches long and situated just above the stenosis. A steel olive tipped bougie was also inserted as far as the obstruction, and could be traced down to the stenosis by means of the screen. These tests were repeated later and photographs taken.

January 15th the patient was given morphine and hyoscine hypodermically, and examined with the esophagoscope. A small necrotic nodule was seen on the anterior wall of the esophagus nearly 40 cm. from the teeth-line. A small piece was removed from this nodule by means of forceps, and on section showed nests of irregular, basal-celled epithelium in a stroma of light fibrous tissue, also a quantity of bacilli and blood present. A diagnosis was then made of esophageal carcinoma situated at or near the cardia.

January 18th, patient weighs 117 pounds, and complains of occasional pains in the epigastrium radiating towards the right shoulder. Appetite remains good.

The treatment has consisted of dieting and occasionally lavage. The passage of the tube seems to lessen the dysphagia.

It was my intention last month to present this case in a comparatively early stage, but since then certain symptoms developed that necessitated a gastrostomy somewhat earlier than was first intended.

The dysphagia increased, and the regurgitation became almost constant after fluid nourishment; the patient showed signs of exhaustion, and rapidly lost weight, now weighing only 108 lbs. We, therefore, decided that a gastrostomy was necessary, and the invaginating operation recommended by Senn, Jr., of Chicago, was performed by Dr. Cummings on February 27th, under a general anesthetic. Since the operation the patient has been much more comfortable, taking nourishment freely through the tube and gaining strength. He reports that he has drunk coffee and tea by the natural channel without regurgitations, which I think very interesting, as it proves that the rapidly increasing stenosis and regurgitation during the last month were partly due to spasm, which has been relieved by the operation. He now chews different meats and enjoys the taste, and swallows the juice, and even puffs away at his favorite Havana once more. I am, therefore, hoping that his most distressing symptoms will be alleviated for some time to come.

THE ETIOLOGY OF THIS CASE.

Cancer of the esophagus under 40 years of age is comparatively rare, although cases have been reported under that age. It has

been observed as early as 19. Seventy-one per cent. occur after 50. Was the blow in the stomach a factor in this case?

Traumatism seems to play an important part in carcinomas of the esophagus. It is a remarkable fact that the three favorite sites, viz., near the cricoid, at the bifurcation, and the hiatus are especially prone to irritation from their anatomical arrangement. Males predominate 3 to 1, with no reasonable solution of this yet given. Is heredity of any importance in this case? According to the latest report from the Imperial cancer research, it may be thrown out.

THE SITE AND HISTOLOGICAL FINDINGS.

Von Hacker, of Gratz, mentions 100 cases diagnosed by means of esophagoscope and microscope, with cervical, 10; bifurcation, 40; hiatus, 30; cardiac orifice, 20, including 31 cases of gastrostomy; 13 cervical, or 9.92 per cent.; 53 bifurcation, or 40.46 per cent., and hiatus 31, or 27.49 per cent. Mackenzie, however, gives the upper portion as the most frequent site.

The type of epithelium is generally squamous. Occasionally they are spheroidal, rarely columnar primarily. Six cases are cited by Hewlett of the latter.

Von Hacker mentions an interesting case where glandular cancer of cardiac end of the stomach extended up the esophagus beneath the mucous membrane; and on autopsy found a squamous-celled cancer at the hiatus, with the glandular cancer immediately beneath it. The latter could be traced to the stomach.

F. W. Higgs mentions a case of squamous-celled cancer situated just above the cardia, with a secondary squamous-celled cancer in the stomach two inches from esophageal opening. There was healthy mucous membrane between the two growths. This was undoubtedly a case of secondary implantation. These epitheliomata usually originate in the epithelial lining and spread to submucosa, infiltrating the muscle, and may circle the lumen. They ulcerate early, but metastases are rare.

A gastric cancer may become esophageal, but one primarily in the esophagus rarely grows beyond the cardiac orifice. Carcinoma of the cardiac orifice is really esophageal.

THE PAUCITY AND LATENCY OF SUBJECTIVE SYMPTOMS.

Dysphagia may be slight or absent throughout the whole course of the disease, as ulceration is early, thus preventing much or any stenosis. The stenosis is often caused as much by spasm as by the growth. Regurgitation is usually given as a common symptom, but it generally appears late when the growth is situated in the neighborhood of the cardia, or when there is much dilatation of esophagus. Pain is seldom a marked complaint in the earlier stages, and is generally transferred and indefinite in character throughout.

DIFFICULTIES OF AN EARLY DIAGNOSIS.

A cancerous stenosis at the lower portion of the esophagus may be confounded with a diverticulum of the esophagus, or cardiospasm. Diverticula are generally situated higher up, have a long history, 10 or 12 years of periodical retchings and regurgitations of foul-smelling foodstuffs. The sac is often visible, and pressure can empty it.

Chronic cardiospasm is usually a disease of neurotics. The resistance varies in intensity at different times; is alike to small and large sounds. If dilatation of the esophagus is present, as so frequently occurs with this condition, it can often be diagnosed by giving the patient a glass of water to drink, and after an interval of four or five minutes, the tube is inserted into the esophagus and the water returns through the tube in about the same condition as when drunk, not mixed with food.

Aneurism of the aorta usually gives rise to obstruction of the esophagus in the neighborhood of the bifurcation.

All the above-mentioned conditions can generally be definitely diagnosed by means of the X-rays and esophagoscope.

In all obscure and obstinate diseases of the esophagus and stomach I would urge the early and more general use of the stomach tube and sounds as a simple and efficient means towards an early diagnosis.

PROGNOSIS.

A word about the treatment of these cases, undoubtedly of paramount importance to the patient, but here it can be dealt with in a few words.

Resection and esophagostomy have been done in cancers situated higher up.

Gastrostomy is recommended in cancers of lower portion if body weight is decreasing, even although the patient is able to swallow fluids well; but it should be undertaken before emaciation and exhaustion are established.

After this operation the growth is less rapid, the pain relieved and life is usually prolonged one or more years.

They do not seem to crave for the taste of food.

Von Hacker saw at Innsbruck several cases rapidly recover and able to work for months.

Sir Frederick Treves mentions a case that remained well for three years.

Dilatation by bougies and permanent tubage with strings passed out through the mouth relieve for a time.

I saw radium used by Max Einhorn with some benefit, but the duration of my observation was too limited to judge of any definite results. Max Einhorn speaks favorably of this form of treatment.

A CASE OF BRAIN TUMOR

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J. C., male, aged 29, was admitted to St. Michael's Hospital, complaining of severe double frontal headache, lack of sensation on the right side of the face, dizziness and staggering while on his feet, vomiting, and at times double vision.

Previous History—Patient was married five years ago, and six months later, according to his account, he contracted syphilis from his wife, with whom he lived for two years in all, and who had one miscarriage during this time. He was under treatment for six months, but had no rash, or sore throat, etc., the prominent symptom being falling of the hair.

His habits were bad.

Present History—Two years previous to admission to hospital, patient felt at times a dizziness which caused him to stagger. This would occur in short attacks, and he was troubled at the rate of about two or three a week. One month previous to admission to hospital severe frontal headache developed, bilateral in nature, and the dizziness and staggering became more marked, and he began to vomit. At times he noticed that he could see a double image.

Examination—Patient slept a great deal when left alone. He was fairly alert on being interrogated, answering questions slowly and deliberately, and with a plaintive tone of voice. His memory seemed to be very good, and he considered it good himself. His temper was even and good. His speech was good for the most part, but a slight syncopation was noticeable in difficult passages.

Cranial nerves—

Olfactory—Sense of smell was not acute at first, later was greatly blunted.

Optic—Continuous vision was impossible on account of the onset of headache. He could for a few moments at a time see distant objects, and could read fine print. His color sense was good. The discs showed a double optic neuritis of equal extent.

Oculo-motor—Slight ptosis was present in the right eye.

Trigeminal—Complete anesthesia was present as far as tactile and pain sense go, but patient had a continuous itching sensation which caused him to pick at a large atrophic ulcer which had developed on the right side of the nose. The skin over the lower jaw remained sensitive. The right set of the muscles of

*Read before the Academy of Medicine, February, 1908.

mastication were not affected at first, but later were considerably weakened, so that the jaw was deviated to the weakened side, and the force of chewing was lessened on this side.

Abducent—The right external rectus was weak.

Seventh—The right cheek was paralyzed.

Auditory—There was marked loss of hearing on the right side, the watch not being heard when in apposition to the external meatus. The drum was normal. A tuning fork could be heard over the mastoid, or over the vertex, for its normal length of time, but only very faintly and briefly at the meatus. The deafness was evidently nerve deafness, and not central, or due to local disease.

The chorda tympani gave evidence of disturbance in that the mouth was always markedly dry, the tongue being heavily furred.

Glosso-pharyngeal—Taste sense was distinctly impaired, but a unilateral distribution of this could not be made out.

Vagus—The vomiting was of a nervous type in that it was projectile, though it came on usually after the taking of food. There was sometimes nausea, but often not, and the act always relieved the headache.

Spinal-accessory—The head could not be rotated to the right as readily as normally, and the right shoulder could not be shrugged, as normally.

Hypo-glossal—The tongue was not deviated to the affected side, as might have been expected, but rather seemed to go to the left. The pushing of the jaw to the right made this observation difficult.

General motor functions—Patient had control of all muscles except those of the right face, mentioned above, but in walking or standing a marked ataxia came to bear.

Co-ordination—There was a marked coarse ataxia, the legs being held wide apart, the feet being lifted high. On some occasions, however, the patient could walk with surprising steadiness. Romberg's symptom was present, the patient falling if left unsupported. In the finer movements, as those of the hands, there was a finer inco-ordination.

Muscle sense was normal.

Reflexes—The eyes reacted throughout to light, they also accommodated. The knee-jerks were slightly increased, ankle clonus and Babinski's sign were not given.

Circulatory System—The characteristic high blood pressure, in the peripheral vessels, of a tension in the cranium was given, the pressure on several occasions being 212 mg. of mercury.

One morning he was found to be dead in bed, the occurrence having taken place without attracting the attention of those within a few feet of him.

The diagnosis of intra-cranial tumor was made from the symptoms of optic neuritis, headache, nausea and vomiting. It was localized to the right lobe of the cerebellum or to the right side of the pons projecting into the cerebello-pontile angle, on the following points: The marked involvement from the first of the trigeminal, facial, and auditory nerves, in their lower neuron part, as proven by the test applied to the auditory, and by the practical impossibility of one lesion covering the widely separated cortical areas of these nerves; the subsequent discovery of involvement of all the cranial nerves arising from medulla and pons; the marked dizziness and the marked ataxia (which latter could arise as result of involvement of the upper part of the crus cerebri); the marked presence of Romberg's sign, consequent upon the last two symptoms; the clear mentality; the absence of motor or sensory or other upper neuron implication of the cerebrum.

At autopsy, a tumor of the surface size of a fig was found projecting from the fore part of the right lobe of the cerebellum, and occupying the cerebello-pontile angle. The cerebellum on the right side was compressed so as to have its long diameter the transverse one. The temporo-sphenoidal lobe was hollowed out on its posterior surface, and the pons and medulla were displaced to the left. The tumor was of firm consistence, homogeneous appearance, and showed some appearance of contraction, which, with the history, led to a provisional macroscopic diagnosis of gumma. On sectioning, it was found to be a sarcoma of spindle cells, with areas of round cell structure.

In consideration of the syphilitic history, large doses of potassium iodide were being given, when the patient suddenly died. With a failure of the iodides, operative measures would have been adopted, and, in consideration of the marked localizing symptoms and with the employment of Frazier's special method of reaching tumors of the cerebello-pontile angle, such measures would certainly have been justifiable. The finding at autopsy of a firm, well-defined, and fairly small mass, indicates the amount of success that could have attended surgical procedure.

ECONOMICS AND SUCCESS IN TUBERCULOSIS CRUSADE.

Elsewhere in this issue we make a report of the Ninth Annual meeting of the Canadian Association for the Prevention of Tuberculosis. Prof. Adami's address is of such general interest that we present the major part of it herewith. Prof. Adami said in part:

The great problem before us in our generation is not how to cure or to arrest tuberculosis; that is the problem for the generations that have gone before. We cannot, indeed, say that it has been completely solved. There are constitutions so weakened, infections so intense, that so far no methods known to us are of any effect in stopping the ravages of this fell disease. These, happily, form a minority of the cases. Given an ordinary case, and that in not too far advanced a condition, we now feel confident that we can get the upper hand of the malady and render the patient once more a useful member of society. It is true that not a score of years ago the medical and the lay world had not learned to realize this. To-day the whole world is convinced that this is so. The great problem, then, is how to utilize this knowledge so as to stamp out the disease. That problem is an essentially pecuniary one—it is a problem both in the larger and narrower sense of social economy.

Here, briefly, are the main data or factors in the problem: The infection is singularly widespread throughout the community, and is conveyed in the main from individual to individual. Only when the disease is what we may term open—that is to say, when it attacks the lungs and provokes a discharge of bacilli—is it within the limits of possibility to eradicate it. What are the more economic methods? How can we ensure thorough action with the least cost to the community? For admittedly, if the disease and the danger of infection are so widespread, the cost of eradication must be a very serious matter. The disease is so widespread that, save for the benefit to the individual, it is useless to keep data for individual cases. So many centres of infection are thereby left untreated that no material benefit accrues to the community at large. The magnitude of the problem and of the work before us is appalling, and it is necessary that at the outset we should realize it.

A compilation of the examinations at post-mortems in general hospitals in Canada reveals that every other case shows evidences of having been infected with tuberculosis. The observations of Nageli and others show that in certain crowded communities of the old world practically every other individual who attains to the age of thirty bears evidence, slight or extensive, of having been affected: I do not believe that here in Canada conditions are quite

so extreme. It is amply sufficient for present purposes, however, to be able to lay down positive evidence that here at least one out of every two adults has experienced a tuberculous infection. The census of 1901 showed that 18 per 10,000 of the population were dying from consumption, and, as pointed out by Dr. J. H. Elliott, out of our present population of 6,500,000, over 777,500 are destined ultimately to succumb to the disease. Montreal statistics for the year 1908 give 945 deaths, or over 10 per cent. of the total mortality. Those Montreal figures show a definite reduction during the last seven years. For myself, I doubt if every case of death has been properly recorded; it is so easy and so human for the comfort of the survivors and for the sake of euphony to ascribe death to pneumonia or progressive emaciation. The problem before us in Montreal is, leaving out of account altogether the cases of arrested tuberculosis, how are we to deal with 2,800 active cases of the disease? Is it possible to accomplish anything? Those cases, it will be seen, divide themselves into two groups—those in which the arrest of the disease is still possible, and those that are incurable. The treatment of those groups is very different.

Thus in the first place we have Montreal, a community of between 400,000 and 500,000, in which at least 1,800 cases of active consumption exist. Naturally our first thought upon establishing the League was that we should embark upon the sanatoria treatment. We knew how effective this was. A very short study of the problem showed us that to cope with the disease by means of sanatorium treatment was out of the question. The initial cost and the yearly expense would be far and away beyond what either the Provincial Government, the city government, or the charitable institutions, or all of them combined, could be expected to offer. Remember, I speak of conditions six years ago. Even at the present day the difficulties would, I am convinced, be insuperable. The only course open to us at first appeared to be a campaign of education. We compiled and distributed by the thousand leaflets in French and English, instructing the community as to the nature of tuberculosis and its prevention. Possibly we frightened some people; possibly for a time some of those already suffering suffered yet more, in fear of those in their neighborhood not affected. Nevertheless, we made it our aim and object to proclaim, first and foremost, that the disease is curable, and secondly, and with care on the part of the patient, infection is easily prevented. Thus we feel now that the first step has been accomplished; that in our community there is a rational knowledge of at least the elements of the tuberculosis problem. We very soon realized that this was inadequate, and the sanatorium method of procedure being ruled out on account of expense, we looked around to determine upon some other practical course to take to aid those in the earlier

stages of the disease. We determined to establish a tuberculosis dispensary. Such a dispensary, we found, could be run at a very moderate expense. We worked in co-operation with our city Board of Health. From it we received reports of every case of death from the disease. We also secured the services of one of the health inspectors, who was detailed to visit every home where a death had occurred, to disinfect it, report upon conditions there if necessary, and provide the family with literature. The city doctors were invited to report to the dispensary all known cases of tuberculosis, more particularly the indigent. The general hospitals, which do not accept consumption cases into their wards, co-operated by sending such cases to attend the dispensary, and city doctors were invited to send their indigent patients for treatment; and as the work of the dispensary became more widely known, patients with long-continued coughs presented themselves for examination. The work accomplished has grown steadily, until accommodation is altogether too restricted, and now at the psychological moment, generous donors—Colonel Burland and his sisters—have presented us with a fully equipped building, admirably situated in the centre of the city, which we hope to open in the early fall—a gift which will certainly represent not less than \$50,000.

But will a campaign of popular education or dispensaries master the disease? The dispensary can, it is true, ameliorate the condition of the patient in the earlier stages of the disease; it cannot cure. What it can accomplish is this: Through its inspectors it can detect the chief danger spots in the city, the region of overcrowding where whole families live in a single room, or those most fatal centres of infection, the dark rooms without windows opening upon the exterior and without adequate ventilation. It can be a potent factor in rousing public opinion and doing away with these hotbeds of infection. But this is not sufficient. The dispensary, as such, has no means of dealing with cases in which the means of a family forbid a patient from being isolated. Unless he is isolated, unless he sleeps in a separate bed and in a separate room, the rest of the family is constantly exposed to danger. I do not hesitate to say that these cases constitute the gravest problem in the whole situation. Could we effectively isolate the sick from the well, we would remove the great source of infection. It is a sheer impossibility to segregate all. Think of the cost of building and maintaining a hospital for 1,800 people, or even to provide for 100 male and female patients. To give each three months' treatment—and that is inadequate—would, cost of building apart, if the sanatorium were run at ordinary hospital rates, demand a yearly expenditure of more than \$70,000. This consideration of cost alone absolutely bars the sanatorium method as a wholesale system of solving the tuberculosis problem. And the

same considerations rule out the cheaper so-called shack system, even though the initial cost of building and some items of the cost of maintenance are very materially reduced to the extent that wooden huts are cheaper to build and maintain than a modern hospital building. There is, however, no material reduction in the cost of food or of the staff in connection with them.

I am arguing, you will see, not against the sanatorium as such, but against the sanatorium as an unduly expensive, and, in fact, an impossible method of fighting the disease at large. There is, I believe, no better method of treatment for those who can afford, or whose friends can afford, it, than to undertake a six or nine months' treatment. I would, in passing, call attention to the one great difficulty of running a sanatorium, that of not adhering to the primary object of such an institution of treating curable diseases. If the bowels of compassion of the committee of management be stirred, or political influence be brought to bear, there is terrible danger of the institution becoming silted up with hopeless cases, so that instead of being a sanatorium, it becomes a hospital for indigent incurables. I hold that the state and the municipality are bound to make provision for their maintenance, as private effort and charity have abundant field to exercise themselves in other directions.

The last few years have seen a notable advance in the treatment of consumption, and it has become fully realized that home treatment is perfectly feasible and possible, even in crowded cities like New York. Then there is the class method. This was introduced by Dr. Joseph Pratt in connection with the well-known Emmanuel Church of Boston. It has, in my opinion, the most in its favor and the least against it. It encourages self-help and discourages pauperism; it enthuses a patient with hope and confidence; it interests the largest number of individuals in the work of arresting the disease; it presents excellent results, and finally, it is the least costly and comes within the range of practical politics. To those not acquainted with it let me briefly indicate the broad outline of the scheme. As regards the treatment, it resembles the home method, in that it is conducted at the patient's home, but has these peculiar features. A given congregation assumes responsibility for the treatment of from ten to fifteen early cases of tuberculosis, appoints a committee to have charge of financial arrangements and to take a personal interest in the patients and their families, a doctor to investigate and choose the cases, and a nurse to visit and instruct them. Only those patients are accepted for the class who promise solemnly to carry out the treatment in all its details. Failure to do this entails dismissal from the class. When the condition of the patient has become satisfactory, he joins with the other members of the class in meeting

the doctor and the nurse once a week in some room provided by the congregation. Here each in turn reports the number of hours spent in the open air during the week, weights are taken, the gains compared, and a pleasant hour spent comparing notes of progress.

Emmanuel Church, Montreal, has followed the example of its namesake in Boston, and has established the first class of this kind in Canada. I would add that the patient so treated should be encouraged to regard expenditure made by the committee as a loan, to be paid back in instalments when his health has been regained. It must be realized that the incurable cases are the most dangerous. They can be rendered harmless when they can be given a room apart, and when the bed linen can be boiled and sterilized. When these things are not possible, then for the safety of the community the only place for them is in the hospital for incurables. As with the completely indigent early cases, I hold that the care of these patients is not a matter for private charity, but develops upon the state and the municipality. The municipality, whether aided by the state or not, is responsible for the care of these, as for all other highly infectious cases.

THERAPEUTIC SERMONETTES

BY GEO. F. BUTLER, M.D.

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CONTRARY to the popular opinion, whooping-cough should not be left untreated. Much can be done to relieve the symptoms of the disease by proper treatment. During the first stage, especially if there is fever, 1/500 of a grain of aconitine may be given every half to two hours, according to the weight of the child. If there is any special reason why this drug should not be administered, such as cardiac weakness, or an idiosyncrasy, anemonin may be given instead, in doses of grain 1/134.

I know of no one remedy which relieves the symptoms of whooping-cough so well as iodized calcium, or calcidin; 1/2 to 2 grains may be given every three hours, or 1/3 gr. every quarter-hour during the earliest formative and the catarrhal stages. Atropine is an excellent remedy, but to do any good it must be given in pretty full doses. It is especially useful for teething children, in the spasmodic stage, and when there is too free secretion. Children take preparations of belladonna well, even better than adults, and there is but little fear of its producing toxic symptoms. Atropine may be given in doses of 1/500 to 1/250 of a grain. If it disagrees, hyoscine may be substituted. Duboisine is an excellent remedy in small doses, and also gives prompt relief to the spasmodic cough. It answers better in summer than in winter. In other words, it is more efficacious in simple whooping-cough than when the disease is complicated with bronchitis. Codeine, chloralhydrate, or both, may be necessary to secure sleep and quiet the cough. Fresh air should be supplied in abundance, but drafts of air and cold drinks should be avoided as likely to induce coughing; and for the same reason all excitement, exertion and discomfort should be prevented. Nutritious and concentrated food should be employed, and when much emaciation is the consequence of the cough leading to vomiting, the best thing to be done is to feed the child immediately after he feels sick, with milk, beef tea, etc., so that some at least of the ingesta may be assimilated before the next attack comes on. Perhaps this is the most important part of the treatment of whooping-cough. Inhalation of the vapors from a Vapo-Cresolene lamp seems to lessen the severity of night paroxysms in some cases. The proper degree of urinary acidity for the alkalinity of the body fluids should be maintained. If the saliva becomes acid or the urinary acidity reaches the degree of

40° or above, "sodoxilin" should be given three times a day, in plenty of water. For the same reasons alkaline mineral waters and milk should be given freely. Digitalin and strychnine may be needed for cardiac support. The bowels should be kept freely open, and intestinal antiseptics administered if necessary.

As a tonic, after the acute symptoms have subsided, brucine, quinine ferrocyanide or the triple arsenates of iron, quinine and strychnine, may be employed.

A PARASITIC DERMOID

BY C. F. MOORE, M.D.

I DID not obtain the history of this case, other than that she had complained for some months of a central swelling in the lower abdomen, that had been enlarging and giving her a feeling of weight and dragging. Upon entering the abdominal cavity, a large cyst presented itself, lying free, having become twisted from its pedicle, and receiving its support by omental adhesions. It was quite easily separated from its bed, and when opened was found to contain a clear, watery fluid and a very large number of spherical pitted bodies of pale green color, about the size of small marbles. The appendix contained concretions, and was removed.

The omentum gives these dermoids their blood supply through the adhesions. The omentum is a protector in all cases, owing to the fact that in it the white blood corpuscles have a pure phagocytic action, and by this means endeavor to protect the body from ill effects by isolating or surrounding any foreign body or infection. White blood corpuscles in other structures do not possess this phagocytic action. Upon closing the wound, the layers of the abdominal wall were found densely matted together, so they were separated by scissors and united by a continuous figure-of-8 catgut suture, and the skin by a subcuticular suture. Four interrupted silk-worm gut retention sutures were previously introduced and tied after the incision had been closed.

The patient made an uneventful recovery, was allowed out of bed on the ninth day, and left hospital on the fourteenth day from operation.

TORONTO GENERAL HOSPITAL CLINIC

The clinic on Saturday, July 3rd, at the Toronto General Hospital was conducted by Dr. G. W. Ross. The first case presented was one of tic douloureux. First, a tooth was attended to, and then a diseased antrum and ethmoid were treated, but without relief. Injections of doses of 7 minims of 80 per cent. alcohol were then given directly into the nerve branches, as they emerge from the infra-orbital and dental foramen. The result was fine. Various other cases were reported by other investigators. This form of treatment was infinitely better than the formidable operation of the removal of the Casserian ganglion.

Case 2 illustrated the lymphatic type of headache. The patient was a young woman who had been a persistent sufferer from the so-called congestive headaches. An investigation of the blood showed a deficiency of lime salts; the blood picture was practically normal. The clotting rate was considerably prolonged. This type of patient complains that she wakes in the morning feeling very tired; does not feel like eating breakfast; has an intense longing for acids in any form. The headache lessens as the day goes on; at night the headache is gone, and the patient does not feel like retiring. Commonly, urticaria, chilblains and oedema are present. Constipation is invariable, and dyspnoea, with hemic murmurs, are common. The patient is usually of an active mental type.

Treatment: Stop all acids and acid fruits, pickles, salad dressings and the like.

Milk should be administered, though such patients dislike milk. The bowels should be kept free. Dr. Ross administers 3 or 4 grains of extract of cascara for three or four nights, giving an occasional saline during the week, in the mornings. The specific medication is calcium lactate, as per the following prescription:

R Calcium Lact.	Gr. x
Elix. Sach.	m iv
Essence Zingiber.	m iii
Aqua ad.	oz $\frac{1}{2}$

Ter in die ante cibum

If a tonic effect is desired, 3 or 4 minims of liq. strychninæ may be added.

Dr. Ross had reported 49 cases in *The Lancet* some four years ago; and a recent investigator at St. Mary's Hospital, London, had reported a series of 42. Dr. Ross had further, after relieving a series of three cases, administered the citrates, with a return of symptoms—headache, chilblains, etc.; but after an exhibition of the calcium, cure was again effected.

The next case shown was one of migraine. The patient showed the classical symptoms of the disease. The pain commences in a small spot in the temporal region and extends over one-half the cranium. It occurs every two weeks. The paroxysm lasts from one to three days, until nausea and vomiting set in, when relief is obtained. The prodromal symptoms are, in many patients, usually referable to the eye, but in this patient a heavy, drowsy sensation is experienced. One case recalled was associated with a flushing of the face. The cause of the condition was unknown, various theories being offered. The most recent suggestion was that it is a sensory expression of an epilepsy. No cure had been found. Treatment should be directed to an improvement of the general health. Dr. Ross was trying lime, although he had found nothing abnormal in the blood. Nitro-glycerine had been found useful.

Incidentally, the patient had Sprengel's deformity, the etiology of which Dr. Ross adverted to. An X-ray showed nothing wrong with the shoulder joint. The patient also showed an arrested pulmonary tuberculosis.

The next case was one of Hodgkin's disease, the differential diagnosis of which the speaker reviewed. In this case he was not allowed to remove a portion of one of the glands to examine it (the simplest method), and so had to come to this conclusion by a process of exclusion. The other conditions to be kept in mind were chronic tubercular adenitis, lymphatic leukaemia and lymphosarcoma. The glands in tubercular adenitis would not have grown so large without having broken down; there would have been more peri-adenitis, and the glands would not be so discrete. There was no pain or tenderness. The blood picture and the non-enlargement of the spleen and liver excluded leukaemia, and the third disease was excluded by the long duration of the illness. An X-ray picture showed involvement of the mediastinal glands. Arsenic and X-ray treatment were affording relief.

The next case was one of tubercular adenitis, the patient, a boy, presenting all the characteristics of the old-fashioned scrofula. On this patient Dr. Ross exhibited the Moro and Von Pirquet's reactions, and discussed their reliability. The Von Pirquet consisted in applying to the skin crude tuberculin, and ensuring its passage into the lymphatic system by scraping the skin. In 24 hours you get the reaction—a fair amount of swelling and oedema. Occasionally there is a rise in temperature. The reaction was sometimes given in the non-tuberculous.

The Moro reaction was done by taking an equal quantity of old tuberculin and lanolin and rubbing them into the skin for ten minutes. This reaction was shown on a patient—tried with various strengths—fifty, twenty-five and twelve and a half, as recom-

mended by White and Graham, of Pittsburg. The severity of the reactions corresponded to the amount of tuberculin used.

A case of Stokes-Adams disease was then shown, and a graphic tracing of the same, the picture showing that the ventricle was beating 36 to the minute, and the auricle 72. Dr. Ross pointed out the cause—that the impulse which arises around the mouths of the great veins gets as far as the bundle of His, and here it is interrupted. These cases of heart-block were rather rare. The patient enjoyed fair health; but had been in the General Hospital some months before, suffering from a chronic itching, which had been decided upon as being purely subjective. No amount of reasoning could convince the patient that he was not suffering from the ravages of some insect. The heart block had been discovered incidentally. The insectophobia had disappeared.

The next case was one of pleurisy, with effusion. Spinal resonance disappeared at the seventh instead of the tenth vertebræ. Some of the fluid was injected into a guinea-pig, producing a tuberculous nodule. The pig was exhibited. The Moro reaction in the patient was also positive.

A case of enlargement of the cervical glands in a case of lues was then shown. The interesting feature of the case was that they were extremely large—larger than the speaker had ever seen in a case of syphilis.

Dr. Ross then demonstrated his method of taking a blood culture. The patient's arm over the region of the front of the elbow was first sterilized by rubbing on pure lysol, followed by the application of pure alcohol; then the veins were constricted by a tourniquet above the elbow. The technique of sterilizing the syringe was shown, after which the blood was withdrawn and placed in the various media.

Selected Articles.

A SUGGESTION CONCERNING THE INCREASED LONGEVITY OF LIFE INSURANCE POLICYHOLDERS*

BY BURNSIDE FOSTER, M.D., ST. PAUL, MINN.

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of the St. Paul (Minn.), Medical Journal.

MODERN medicine has, above all, two chief aims, the prevention of disease and the recognition of its earliest signs in the individual. In both of these aims the business of life insurance has an immense interest, since the nearer we approach to their accomplishment the more we add to human longevity. I was much interested in reading the address of Prof. Irving Fisher, delivered before this body at its meeting in February last, on the Economic Aspect of Lengthening Human Life, and his plea for concerted action on the part of life insurance companies to lend their financial aid to the cause of preventive medicine, is one which meets with my hearty sympathy and approval. I do not know when or where the idea of enlisting the life insurance companies in the cause of preventive medicine originated, but it has been in my own mind for a good many years. In the course of an address delivered in 1902 before the Minnesota State Sanitary Association, and published in *American Medicine*, Vol. V, Nos. 11 and 12, (1903) I alluded to it in the following sentences which I should like to quote at this time, to prove that the idea is not a new one:

"The business which more than any other is directly concerned with the health of the people is the life insurance business, and when we consider the enormous amount of capital invested in this business and the enormous numbers of people, including both the insurers and insured, who are interested in it, it would seem that life insurance companies might form a powerful combination which would be capable of accomplishing a vast amount of good in this direction. Fire insurance companies have found the support of salvage corps as adjuncts to the regular municipal fire departments to be a very profitable investment. In an analogous but somewhat different way, I believe that life insurance com-

*Address delivered at the regular bi-monthly meeting of the Association of Life Insurance Presidents, New York City, April 2, 1909.

panies would find it profitable to use their money and their influence in supporting the work of municipal boards of health, and also, perhaps, in pursuing and maintaining independent investigations of the many problems concerning sanitation which remain yet to be solved.

"The companies pay out annually millions of dollars for death losses which result from preventable diseases. Would it not be profitable from the business point of view alone to spend some of this money in endeavoring to prevent some of these diseases? Of course life insurance companies would be unable, in case they should pursue any such policy as the one suggested, to know just what lives they were saving, and they would, of course, assist in saving many lives that were not insured. Fire insurance salvage corps assume that all threatened property is insured, and endeavor to protect it all; I believe that the life insurance companies could well afford to do the same.

"If all the life insurance companies would combine and set aside each year a fund to be devoted to a co-operative investigation of some of the problems of preventive medicine, an immense amount of good would be accomplished at an expense which would be trifling to each company, and the direct return to the companies would be very large."

Preventive medicine becomes more nearly an exact science all the time, and while its possibilities are far from being realized, this is not because of its own inexactness or shortcomings, but because the people have not yet awakened to the fact that those diseases which cause the greatest number of deaths and the greatest amount of suffering are actually preventable, if money enough is spent to prevent them. The only way to enlist all the people actively in the crusade against preventable disease is to present the subject as an economic one, which it surely is, and one which appeals directly to their pocket-books. I am glad that life insurance companies are beginning to be interested in it from this point of view. Its study will prove profitable to them, and will afford a most valuable object lesson to the people.

I have another suggestion to make, which I was especially invited to make to you at this meeting by your General Council and Manager, and which is distinctly germane to the subject of preventive medicine as well as to the economic conduct of the business of life insurance.

As far as their policy-holders are concerned, life insurance companies have two chief objects in view: First, that every policy-holder shall be physically sound when his policy is issued, and second that he shall live as long and pay as many annual premiums as possible. These two conditions are also of great importance to the policy-holders themselves, because a low death rate means a smaller

cost of insurance, and also because every one wants to live as long as possible. All life insurance companies are careful, some more so than others, to see that their risks are carefully selected, and on the whole I believe that the medical examinations for life insurance in this country are rigorously and honestly made, and that the great majority of accepted applicants are sound at the time their policies are issued. This, of course, is as it should be, but so far as I know no effort is made by any life insurance company to keep in touch with the physical condition of its policy-holders after their policies are issued. Life insurance companies will, of course, admit that anything which would add five to ten or more years to the average longevity of their policy-holders, so that they would pay just that many more annual premiums, would be an immensely valuable stroke of business. I believe that this very thing is possible, although, of course, I would not go so far as to state anything definite as to the average increased longevity that might be brought about. There is probably not a physician who has not many times in his experience detected, while examining a patient for some other purpose, the early signs of some beginning organic disease, of which the patient had no suspicion. In such cases the early recognition of the first evidences of the disease has enabled the physician to so order the life of his patient as to prevent the further progress of the disease, if it is a curable one, or to retard its progress, and to enable the patient to live much longer than he would have lived had the disease not been detected until later.

Many persons die of kidney disease, of tuberculosis, of cancer, of diabetes, of heart disease, and of other diseases every year, and many millions of dollars are paid by the life insurance companies which have issued policies on the lives of these persons, who were sound when the policies were issued, and who might have lived much longer, and paid many more annual premiums if the diseases which caused their deaths had been recognized and properly treated in their earliest stages. To a medical audience it would not be necessary to go into details in regard to this statement, and perhaps to this audience it is not appropriate to do so, but I am sure that you will all understand that diabetes, for instance, begins very insidiously, and is often present for many months, perhaps years, without symptoms, and its presence is very apt to be first recognized as the result of an examination of the urine, made for some other purpose. You can also readily understand that if diabetes is detected in its very earliest stages, and the patient put upon appropriate treatment at once, he will live much longer than if it is allowed to go unsuspected, until treatment is of little avail.

So too, the early diagnosis of tuberculosis, of cancer, of heart disease means a better chance for recovery, and a longer life for the

individual. These are the very diseases which figure most largely in your mortality tables. My contention is that it is perfectly possible to recognize, in many cases, the early signs of these diseases before the individual suspects that any evidence of disease is present, and that life insurance companies would save large amounts of money which they now pay in death losses by inaugurating a plan of systematic re-examination of all their policy-holders at regular intervals, say every five years. This, of course, could not be made compulsory on all policy-holders, but I believe that the great majority, if the reasons for examination were explained to them, would be very glad to report to the medical examiner at a specified time, and submit to the necessary examination.

The expense to the companies would be trivial, and in certain cases where the policy-holder was insured in two or more companies the expense might be easily divided. Indeed, the companies might enter into an agreement for the exchange of information regarding all policy-holders as they now do in regard to rejected or postponed applications, and still further reduce the expense. The details of the plan which I should suggest would, of course, have to be carefully worked out by the companies, but I feel certain that by adopting some such plan as I have in mind, the statistics of life insurance companies would in a few years show a greatly reduced mortality with correspondingly increased profits to the business, and a lessening of the cost of life insurance. The whole tendency of modern medicine is toward the early recognition and the prevention of diseases, and the life insurance company which first makes a practical application of this principle to its business will not only bring about a revolution in the business of life insurance, but will also confer an immense and lasting benefit to the world.

It has been my experience, and other physicians have had the same experience, that there is a constantly increasing number of individuals who are adopting the custom of presenting themselves to physicians at stated intervals, not because they think they are sick, but for the purpose of being examined to ascertain if their organs are sound and their functions being properly performed. This would indicate that the importance of the early recognition of evidences of disease is being recognized. I have several times as the result of such an examination had the experience of detecting the beginning of some chronic disease, unsuspected by the individual, and I am positive that this discovery followed by appropriate advice has added some years to the life of that individual. Surely, the regular periodic examination of a large percentage of the immense group of individuals represented by the policy-holders of the life insurance companies of this country, would bring to

light many instances of incipient disease which appropriate treatment would either cure or check, and it is equally sure that the average longevity of this group of individuals would be increased. I am also convinced, that, if a carefully worded letter were sent to each policy-holder at stated intervals, say every three or five years, explaining the advantages to them of such an examination, and offering it to them without charge, as one of the benefits conferred by their policies, a very large majority of them would avail themselves of the privilege.

Life insurance, the most beneficent and philanthropic of all businesses, and the profession of medicine have for years worked together in the study of many problems having to do with human life. Aside from the humanitarian point of view the business of life insurance has an immense financial interest in the increase of human longevity; and in spending money to aid in the accomplishment of the aims of preventive medicine, the companies may legitimately charge the amounts thus expended to the regular expense accounts of their business. Medicine is expected to do much, and does much in the name of sentiment, charity and philanthropy. Life insurance companies cannot spend the money of their stockholders or their policy-holders for such purposes, but when sentiment and philanthropy also spell more premiums from policy-holders, and hence cheaper insurance, they not only may, but must invest in them. I look forward with confidence to the time when preventable diseases will be prevented, and when curable diseases will be recognized in the curable stage, and will be cured, and I believe the grandest triumphs of civilization will be the achievements which will result from a realization of the possibilities of preventive medicine. The coming of this time will also mark a new era in life insurance. As an additional suggestion I append a draft of a letter which, or some modification of which, would, I feel sure, induce a very large proportion of policy-holders to report for examination at stated intervals.

SUGGESTED LETTER TO POLICY-HOLDERS.

"My Dear Sir,—As a policy-holder in this company you are directly interested in the economic conduct of its business, since the amount of your dividends, and hence the cost of your insurance, depends upon the profits earned each year over and above the cost of carrying on the business. You are also, it is presumed, interested in your own individual longevity and would like to live as long as possible. We hope, therefore, that you will read this letter carefully, and that you will be willing to accede to the request contained in it. It is well known to physicians that very many of the diseases of which people ultimately die, have existed a long time before their symptoms have been noticed by the patient, and

that when the patient finally consults a physician, it is often too late to do all that might have been done if the disease had been detected earlier. Many diseases may be checked or cured in their early stages. Many individuals are beginning to realize this, and the custom of consulting a physician at stated intervals for the purpose of being examined to ascertain the presence or absence of the early signs of disease is growing to be a common one. We have decided to offer our policy-holders, as one of the benefits of their policy, an opportunity to receive such an examination at stated intervals without charge to them. You have now been a policy-holder in this company for years, and we should be glad to know that you are in the same good physical condition at the present time as you were at the time your policy was issued; if on the other hand you have at the present time any evidence of the beginning of any disease it is for your interest, as well as for ours, that it should be detected, in order that you may put yourself in the way of being cured if possible. We should be very glad if you would present yourself to our examiner, Dr. between the and the of this month for examination, taking the enclosed blank with you.

"There will be no expense attached to this examination, and, of course, all information in regard to it will be held as confidential between the examiner and the company. There is no obligation on your part to have this examination made, and it has, of course, no bearing on the status of your policy, but since the interests of all our policy-holders are affected by having as large a number of them periodically examined as possible, we hope that you will accede to our request.

Yours very truly,

It occurs to me that the directors of life insurance companies in considering, if they do consider, the suggestion I have made to-day, may fairly look at it from another point of view, besides that of adding to the longevity of their policy-holders. The problems concerning the prevention of disease, concerning the prolongation of life, and concerning public and private hygiene are being talked about, and thought about, and studied by the people, at the present time, more intelligently and more earnestly than ever before in the history of the world; this is undoubtedly the case. I believe it is also true, that events of the last few years have shaken to some extent the faith of the people in life insurance, as a business. Life insurance as an institution, as a protection to the family, stands firmly as ever, but unfavorable public sentiment has been aroused by the publicity which has been given to some of the business methods which have been practised by some of the life insurance companies. Would it not be a good thing for the business of life insurance, if the public were to learn that the

companies, besides offering a protection to the family after the death of the bread-winner, were earnestly and seriously engaged in a concerted effort to protect the bread-winner during his life? I believe it would, and I believe that if the business of life insurance, and the profession of medicine, were to join hands on the platform of preventive medicine, they would both earn the gratitude of humanity. The financial rewards to the life insurance companies would also be great; the people would share largely in the financial benefits, since the cost of their insurance would be lessened, and the medical profession while not profiting financially—indeed, preventive medicine is directly against the financial interests of the medical profession—would take pride in its share of the added benefits to mankind. When preventive medicine becomes actually preventive, a large number of diseases, notably the communicable diseases, will become practically extinct, just as the bubo plague and cholera are now practically extinct in most highly civilized communities. It will be necessary, however, in order to keep the sanitary defences of a nation properly manned to have at all times a large standing sanitary army of medical men who will be servants of the state rather than servants of the individual. This is the ideal future of the medical profession.

The possibilities of properly directed scientific effort in the control of disease in animals have been amply demonstrated by the United States Government in the work that has been done during the last twenty-five years by the department of agriculture in protecting hogs, cattle and domestic fowls from the many pests which formerly were so fatal to these animals, and the millions expended by the Government in this work have been returned many times in the form of increased profits to the farmers and stock raisers, and have added immensely to our national prosperity. The problems of the control of the diseases of mankind are not very different from the problems of the control of the diseases of beasts. Are not its citizens at least as great an asset to a nation as its hogs? The government undertook the matter of protecting the lives of its hogs and cattle because the people demanded it. When the people demand it, it will also undertake to protect the lives of its citizens. It is as simple a problem to drive typhoid fever out of the United States as it was to banish yellow fever from Havana and from Panama. The medical profession has for years been pleading for governmental aid in their efforts to prevent preventable disease. It has pleaded to deaf ears. Let the immense influence of the life insurance companies be brought to bear upon the government in this matter, and those ears will be deaf no longer. Whether, gentlemen, the directors of the companies represented in this Association see any merit in any definite suggestion I have made to you to-day, or not, is a small matter, compared with the immense

educational value to the people, of witnessing an active effort on the part of the great institutions which you represent, to prevent preventable disease and to add to human longevity.

SOME RELATIONS OF THE THYROID GLAND.

BY S. P. BEEBE, M.D., NEW YORK.

THE thyroid gland is now attracting more attention from the physiologist, the pathologist, and the clinician than it has at any other time in the history of medicine.

Its fundamental importance is gradually being realized, and it, together with the associated parathyroid gland, is coming to be recognized as of quite as much importance to the health and normal functioning of the organism as the liver, kidney or suprarenal gland. Fairly definite pathological conditions have been associated with the underactivity or the overactivity of the thyroid, but its relation to a series of metabolic disturbances which do not fall sharply into either hyperthyroidism or hypothyroidism is just being demonstrated. Nevertheless the fundamental physiological activity which it performs is yet undecided.

In hyperthyroidism we are confronted with a symptom-complex which has been explained in various ways. It may perhaps seem unnecessary to argue that the symptoms of this condition are due to overactivity of the thyroid function, but some investigators are not yet convinced that such is the case. I shall not attempt to outline all the evidence upon this point, but will merely call attention to the fact that the more recent evidence indicates the symptoms of the disease are the result of the direct action of the abnormally large amounts of thyroid proteid in the circulation. It is not denied that a disturbance of vasomotor control, perhaps of a local nature, may be a fundamental fact in permitting the absorption of the abnormal quantity of thyroid proteid, but when the condition is once established I believe that we are dealing with an autointoxication rather than an intrinsic neurosis. The constitutional disturbance evidenced by the loss in weight, the larger excretion of nitrogen, the disturbed nitrogenous metabolism evidenced by increased creatin, diminished creatinin and low test nitrogen, the characteristic blood findings of a leukopenia with relative lymphocytosis, the profound muscular weakness, the tachycardia which is due to a direct action on the heart muscle, are findings which are reproduced in large part by the artificial administration of thyroid substance, and point to thyroid poisoning and not to a functional neurotic disturbance.

A wide variety of precipitating causes may usher in the onset of symptoms. Physical overwork accompanied by severe mental strain and responsibility, a sudden fright in an otherwise normal individual, the continued excitement of certain religious observances, a severe emotional shock, or the continued depressing influence of an unsuitable environment, are found to be preceding events in a large number of cases. In such instances we might reason that a vasomotor instability has been the primary factor in permitting abnormal thyroid absorption. In a small percentage of cases there has been thyroid enlargement without symptoms for some time. In one such patient a severe fright was followed within eight hours by symptoms of acute thyroid poisoning. In this case, which is typical of a considerable group, we cannot suppose that the secreting cells of the thyroid gland have actually produced during the interval a larger quantity of the iodized thyroid globulin, the absorption of which is responsible for the symptoms. It seems probable that in such cases the primary event is a vasomotor dilatation, and with the increased blood-supply to the thyroid gland the unusual absorption has been permitted. Why with such an origin the condition passes into a chronic disturbance is not explained. Some cases which have originated in such manner may continue for a long period of years, while others are only a temporary storm, and without treatment the organism rapidly regains a normal equilibrium after the severe nervous shock has passed.

In another group of cases there is fairly good evidence that the disturbance of an infectious disease, notably tonsillitis and typhoid, has been the primary event in the abnormal thyroid physiology. It has been customary to explain these cases by supposing that the thyroid is called into unusual activity in order to combat the toxemia in the disease, and that from this beginning the vicious circle is continued. Some observers maintain that any toxemic disturbance in the body calls forth unusual activity on the part of the thyroid, and they find evidences of such activity in the increased size and the histologically over-active condition of such glands. The examination of over 200 human thyroids obtained from a variety of toxemic and infectious diseases leads me to believe that there is no basis for such a conclusion. The glands have been found to be quite as often atrophic and inactive. There is no doubt that hyperthyroidism often follows tonsillitis, but I believe this may follow as a result of a vasomotor disturbance rather than to suppose that the altruistic action of the thyroid has continued to an ungovernable condition.

Some experimental evidence has been published to show that the administration of thyroid proteid to normal mice permits them to withstand fatal doses of a comparatively simple poison,

acetonitrile. I have repeated these experiments on a large series of mice, but have been unable to demonstrate the invariable protection claimed by Hunt and Seidell. I am convinced, however, that the physiological effect of large doses of thyroid may be anti-toxic under some circumstances. A remarkable improvement in nitrogenous metabolism which follows thyroid administration in some cases of metabolic toxemia is accompanied generally by a corresponding decrease of toxic symptoms, and it seems probable that the action of the thyroid has actually decreased the amount of circulating toxic material.

Regardless of the etiology, the patient is mostly concerned with the possibility of relief. The therapeutic measures which have been applied to the various thyroid disturbances are even more numerous than the theories which have been put forward to explain them. In my opinion such a variety of measures of treatment need not argue that the thyroid is not the direct factor in the production of symptoms. In any disease where a large percentage of cases recover without any treatment whatever there will always be found a great variety of therapeutic measures. The surgeon, when sufficiently expert in technique and judgment, undoubtedly cures a large percentage of cases. The X-rays properly applied are undoubtedly effective in many cases. The rest cure has many adherents, and justly so. The application of psychotherapy to these diseases has produced brilliant results when applied by the right man, in the right way, to the right group of cases. We must recognize that practically all the methods of treatment have some psychic effect. This is properly so, and if the physician has no confidence in his therapeutic measures he can scarcely expect it of the patient. And in addition to all these there is the physician who relies upon medicines, and occasionally even upon some various forms of specific treatment which have been advised within recent years. I believe that these various methods of treatment all have their place, and that when confronted with any given case one should try to determine which form of treatment or which combination is the best one to apply. In reaching such a conclusion a considerable number of factors must be taken into consideration. Among these it goes without saying that the particular type of disease is very important, and the particular qualifications and clinical judgment of the physician who is to carry out the treatment must be considered. If an operation is proposed, one must not only consider the type of the disease, but also the skill, judgment, and experience of the surgeon who is to perform the operation. If it is possible I believe it to be wise to treat these cases without operating, for although there is a large factor of safety in the thyroid gland, and a very large percentage of the total gland tissue may be re-

moved surgically without causing immediate harm to the patient, I believe we have not seen enough of the final late results in these cases to justify surgical attack if a simpler means of treatment will give good results and leave the thyroid gland intact. The first person operated on in this country for Graves's disease had a relapse thirteen years later, which was readily cured by serum.

The disease is most common in young persons in whom the thyroid gland has its maximum physiological activity, and the fact that a large part of the gland may at an early age be removed with impunity does not prove that an effect which appears later in life may not be unfavorable. Some experiments which we have recently made indicate that in a young animal the thyroid readily absorbs iodine and gives an increased functional activity thereby. In an old animal such a result does not follow. The iodine is either not absorbed at all or only to a very limited extent. We cannot conclude from such experiments that the older animal does not need the thyroid function, for we know from other experiments that it does need it. If a large part of the animal's gland has been removed in early life, it seems possible that in the later years, when the gland is naturally much less active and efficient than in the younger period, some of the difficulties consequent upon old age might be increased. We cannot reason that because in a normal animal the removal of three-fourths of the total kidney tissue works no immediate harm, and may even cause a very marked increase in the total output of urine, such an operation is to be recommended. The ideal result to be attained is the relief of the distressing symptoms of the disease and the restoration of the patient to normal condition with as little physiological injury as it is possible to make. If this can be done by simple medical means, thereby leaving the gland intact, I believe that the surgical treatment is undesirable. Moreover, the medical means of treatment—and in this term I include the serum treatment—can be carried out by any intelligent physician, while the surgical treatment ought to be restricted to those few men who combine the requisite skill with keen judgment in the selection of suitable cases.

I do not hold a brief for the serum treatment. It is probably known that this treatment has now been applied to a large number (about 450) of cases, and as a whole the results are very good; but I may say that although my interest in this form of treatment is keen, I have within the last six months recommended surgery, X-rays, rest treatment, and psychotherapy in cases which were unsuitable for serum treatment. Nevertheless the statistics which we have obtained up to date from cases treated by many different observers indicate that the serum has a very marked value, and that it gives the physician an additional opportunity to prevent some of the disastrous results of surgery.—*Therapeutic Gazette*.

The Canadian Journal of Medicine and Surgery

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Editorials.

THE EVILS OF HEREDITY CALL FOR GREAT CARE IN EFFECTING MARRIAGE

At a session of the International Council of Women, held in the Convocation Hall of the University of Toronto, June 28th, 1909, Professor R. Ramsay Wright, Vice-President of the University of Toronto, spoke of "Heredity and Environment." The lecture was accompanied by stereopticon views. The lecturer described the

structure of protoplasmic cells, the cell nucleus, and the structure of nuclei. He showed that the chromatin of the sex-nuclei was the bearer of the hereditary qualities, and, although derived in equal amounts from both parents, contained different proportionate representation inherited from the grandparents and great grandparents. Not only physical, but mental, moral and intellectual qualities were transmitted through heredity from generation to generation. Instances were given to show the effects of a bad heredity, and remedies were suggested.

"Statistics," he said, "show that the birth rate among drunkards, the insane and the criminal is higher than it is among normal people. Predisposition to tuberculosis, insanity, criminal tendencies were also transmitted by heredity."

In reference to drunkenness, the lecturer said that total prohibition, though a shorter way of getting rid of the evils of liquor, did not destroy the craving for it in the drunkard. Some naturalists thought that it would be better to allow nature to take her course and thus weed out those who had an abnormal craving for drink, leaving only sober members of the race as survivors. The lecturer, however, said that prohibition, if successful in preventing alcoholism, would eliminate the recognized deteriorating effect of alcoholic excess on the germ plasm and show beneficial results in a population adopting it.

Marriage regulation affecting criminals, habitual drunkards, those having mental troubles, and men and women affected with transmissible chronic diseases was the only sure method of putting a stop to the conveyance through marriage of these disturbances, which have created so much trouble in the family and society. If the regulation of marriage could not be obtained, parties considering marriage should ascertain whether or not there were traces of trouble in the ancestors of either party which could be transferred to coming generations. Owing to the full exposition given to the subject of heredity, only a brief reference was made to the effects of environment. A scheme which had been advanced by Professor Forel, the celebrated Swiss alienist, was that of taking several Japanese children, and adopting them as babes in the homes of European families, and *vice versa*, and by this means ascertaining whether the greater force was heredity or environment. The lecturer recommended the science of "Eugemics," or good methods

of breeding, as applied to mankind, as a subject eminently suited for the consideration of the Women's Congress.

The lecture includes themes so vast, that it could with advantage be expanded into a series of lectures. We hope that the learned Professor may take up this subject again, feeling confident, as we do, that it would meet with a cordial reception from the Toronto physicians.

It occurs to us, from observation of cases, that children born of sound parents may reproduce the defective mental, moral or physical characteristics of a preceding generation on the father's or mother's side. One notices that a child bears a physical resemblance to a grandsire, a grand uncle, a grandmother, or grand aunt, instead of favoring either parent. Mental or moral characteristics may also follow the same route. In Canada, owing to immigration, people of different races marry, in ignorance of family history on either side, and the children born of such unions, though the parents are sound, may present defective mental, moral or physical traits, derived from ancestors of a preceding generation. This is a difficulty the occurrence of which should be prevented, if possible. Parents should interest themselves deeply in the matrimonial concerns of their children. Wealth and influence may not be theirs with which to dower their children, but, by exercising care in selection and making suitable enquiries, they may prevent the evils traceable to a misalliance.

J. J. C.

CONFLICTING VIEWS OF THE ETIOLOGY OF TUBERCULOSIS

THE medical profession, not to mention the public, must feel a trifle mystified by the claims of contending pathologists respecting the etiology of tuberculosis. That the alimentary route, with the natural inculcation of the gentle cow, is the *fons et origo mali*, is supported by the experimental results of Calmette, Guérin, Breton, Vansteenbergh, and Grysey. These experimenters show that tubercle bacilli, and also pigments like those of china ink, introduced into the stomach of the guinea pig will find their way to the lungs, without producing any visible alteration of the intestinal mucous membrane.

Sir W. Whitla, (*vide B. M. J.*, July, 1908) announces that he

has performed experiments in which the tubercle bacilli and the pigments were mixed, and the results which he obtained confirmed those of the previously mentioned observers. He maintains that, while we are hardly justified in assuming that phthisis never occurs from the inhalation of dried sputum in dust, or from inhaling the spray ejected in the act of coughing, it appears to be conclusively proven that, as forcibly put by Ravenel, the alimentary tract is a frequent portal of entry for the tubercle bacillus, which is able to pass through the intact mucous membrane of the bowel, without producing any local lesion at the point of entrance; that this event is especially frequent in children, and that the milk of tuberculous cows is the common source of infection in these cases. Sir W. Whitla asserts that at no distant day the contention of Calmette that, *in the immense majority of cases pulmonary tuberculosis is not contracted by inhalation*, but that, as taught by von Béhring, the bacilli of tuberculosis enter the system through the alimentary canal, will be generally accepted.

This is rather absolute, and would seem to demonstrate that the etiology of tuberculosis by the respiratory route is a fallacy.

However, it is admitted that in China, where the consumption of the milk of bovines is practically *nil*, tuberculosis is everywhere prevalent among the natives. In reference to this last point, Bernheim (International Congress of Tuberculosis, 1908) says that the frequency of human tuberculosis in countries where the use of milk and meat is very limited, and the slight mortality of children during the process of lactation, demonstrates that their intestines play a rôle altogether secondary, although appreciable, as a channel of entrance of tuberculosis. Moreover, the necessity of introducing large doses of tuberculous products into the alimentary canals of animals, in order to produce experimental tuberculosis, and the numerous failures in obtaining it, do not argue in favor of the enterogenic doctrine of human tuberculosis. Bernheim also says that the great facility of realizing in man, as well as in animals, an experimental tuberculosis by inhalation of dried sputa argues in favor of the view that the respiratory path is a common channel of infection.

J. Comby (International Congress of Tuberculosis, 1908) attacked the milk and meat theory of the etiology of tuberculosis, and sustained the doctrine that the bacilli tuberculosis enter by the respiratory passage. He said: "Our clinical investigations have

shown that tuberculous children are found only in families in which there are tuberculous members, regardless of the kind of milk consumed. On the other hand, we constantly find at autopsies tuberculosis of the peri-bronchial glands, which, therefore, represent the aerial port of entry of the bacillus of Koch. Among 1,432 autopsies on children from the hospitals of Paris, during the course of fourteen years, we found 529 tuberculous subjects, or about 37 per cent. Among 216 infants from 0 to 3 months, 4 tuberculous, or less than 2 per cent.; of 1,008 from 0 to 2 years, 252 tuberculous, or about 25 per cent. After the second year the proportion of tuberculous cadavers attains 45, 50, 60 and 65 per cent. All this is fully explained by human contagion. Prophylaxis should occupy itself with phthisical human beings and not with cows."

This last assertion is more epigrammatic than true, for all admit that a certain percentage of cases of tuberculosis can be traced to infection through the alimentary route. This last point was well brought out by Sir W. Thompson, who, in his reply to the Hon. Sydney Fisher, at the public health meeting of the International Council of Women, Toronto, 1909, put the etiology of tuberculosis in this way: "Perhaps not as much tuberculosis as had been thought arose from diseased milk, but the Hon. Mr. Fisher admitted that there were quite a number of cases from that cause. It would be hard to fix the percentage, but Mr. Fisher, of course, had access to statistics, and probably could be quite sure of the correctness of his figures. Sir William Thompson, however, thought that the present opinion was that more tuberculosis was contracted from milk than was thought a few years ago. It was the opinion of medical men that the disease contracted in that way would remain latent in the system for some time. The tuberculin test was a very valuable one, and the whole world would follow Canada's example, if it prevented the use of milk from animals which had reacted to that test. On the other side of the Atlantic, they would be satisfied to discard all milk from cows, which showed any taint of tuberculosis of the udder."

There is reason, therefore, for blaming the gentle cow for a percentage of tuberculosis; how great or how small that percentage may be the pathologists do not say. The greatest weight of evidence favors the opinion, that the vast majority of cases of tuberculosis arise from infection of the respiratory passages, through air-borne dried sputum.

J. J. C.

EDITORIAL NOTES.

Injections of Alcohol into the Nerves in Neuralgia.—O. Kiliam, in *The Medical Record*, June 5, 1909, praises the good effects of injections of alcohol in neuralgia, especially trifacial neuralgia. He injects from 1 c.c. to 4 c.c. of 80 per cent. alcohol into the affected nerves. Since September, 1906, he has treated 190 cases, with 5 failures; the other 185 patients were all relieved of pain for some time. The number of injections necessary to produce a curative effect varied from two to ten, according to the number of branches of the nerve affected, the severity of the pain, and the anatomical peculiarities of the skull of the patient; on the average three injections sufficed. Narcotics are not required. When dexterously done, the result in many instances is instantaneous. Pain that has persisted in a violent form for years disappears instantly. Other cases required a greater number of injections of alcohol, the treatment taking about two weeks' time. The cure, however, is not a permanent one, and, in Kiliam's opinion, there is no permanent cure for trifacial neuralgia, not even excepting gasserectomy. Recurrence varied from three months to two years. In case of recurrence, one or two injections of alcohol into the affected nerve will allay the neuralgic pain in most cases.

Treatment of Puerperal Eclampsia.—A case of puerperal eclampsia in a primipara will test the therapeutic resources of a veteran, and, sometimes, in spite of well-directed treatment, the poisoned heart fails and the patient passes away. In this note the full treatment of puerperal eclampsia will not be given, but, rather, some indications of the line of treatment most likely to be successful, together with cautions against the use of certain drugs which have been found in practice to do more harm than good. Most obstetricians resort to chloroform, in order to control the fits, but chloroform acts like the eclamptic poison itself, in depressing the heart. The same objection applies to chloral. Many physicians claim to have found the tincture of veratrum viride of value in controlling the fits, and they give this drug in doses sufficient to cause nausea, or even vomiting. Veratrum viride powerfully depresses the circulation, small doses greatly reducing the force of the pulse, large ones rendering the pulse weak, rapid, or almost

indistinguishable. The continued administration of veratrum viride to control fits in a case of puerperal eclampsia would be most perilous. Strychnine, which itself tends to cause convulsions, is objectionable as a heart stimulant in eclampsia. At the Rotunda Hospital, Dublin, the treatment in puerperal eclampsia is: (i.) Delivery when possible. (ii.) To avoid further metabolism. (iii.) To aid excretion. (iv.) Symptomatic. Accouchement forcé is not practised there; the obstetrician waits until the os uteri is sufficiently open and the head fixed enough to apply the forceps, or until the os uteri is sufficiently open to deliver as a breech presentation. To avoid the metabolism of digestion, no food is given by mouth or rectum. Morphine decreases metabolism, and hence temporarily and partially puts the metabolic sources of eclampsia out of action. Morphine decreases cerebral irritability and controls the fits. It does not depress the heart, and probably has no effect on the secretion of the kidneys. An eclamptic patient should be put to bed and a half a grain of morphia sulphate, with one-hundredth of a grain of atropine sulphate, injected subcutaneously. If further fits occur, another quarter of a grain of morphine, with atropine 1-200, is given in two hours' time. This dose is repeated every two hours, if necessary, up to two grains in the twenty-four hours. If the patient is conscious and she can swallow, she should get one and a half drachms of compound jalap powder, or two ounces of castor oil, or three ounces of black draught. If unconscious or intractable, wait for a quarter of an hour, to allow her to come well under the influence of the morphine, and then pass a soft siphon tube into the stomach; the tube is connected with a douche. The patient's stomach should then be washed out with warm water. Before withdrawing the tube pour in two ounces of castor oil, with three drops of croton oil. The patient is then turned on her side. A long, soft rubber tube, lubricated with glycerine, and filled with warm water, is then pushed through the anus, and as high up the rectum as possible. The bowel is washed out until the return is clear. Hot poultices of linseed meal are applied every two hours to the loins to relieve the congestion of the kidneys. If profoundly unconscious, infuse one pint of the saline solution under one breast. If unconsciousness continues after eight hours, infuse a pint of the same under the other breast. The catheter should be passed, urine withdrawn and measured. The patient should be covered

with blankets. No food is given until the patient has recovered from the fits. Then milk and hot water is given. For heart failure inject ten to twenty drops of whiskey, and digitalin gr. 1-100. It will thus be seen from this account that a successful treatment of puerperal eclampsia consists mainly in morphine and a thorough emptying of both upper and lower bowel.

Diet as a Prophylactic and Therapeutic Agent.—In the June number of *The Interstate Medical Journal*, Dr. H. W. Wiley, Washington, D.C., publishes a paper containing some interesting data on diet as a prophylactic and therapeutic agent. He objects to the excessive mastication of food, that it would tend to satisfy the sense of hunger with a less quantity of food than is needed in normal conditions. While favoring a considerable degree of comminution of food, he is opposed to prolonged mastication. If mastication is continued until the food is reduced to its molecular condition, the food would be almost instantaneously digested; but, if the absorbent system remains in its present condition, it would be impossible for that food to enter the circulation in an instantaneous manner. Much of it would, in the natural motion of the intestinal organs, soon pass beyond the region of absorption and entirely escape entering into the nutritive processes. Dr. Wiley favors a mixed diet of protein, fat and carbohydrates. He instances beriberi, a disease occurring among the poorer classes in Japan, and believed to be due to the exclusive use of rice as food. He mentions scurvy, which is believed to be caused by a lack of fresh vegetables in the dietary. In reference to milk, he draws a distinction between the use of milk by healthy people and by the sick. Healthy people may use milk which has been dosed with boric acid, formol, benzoate of sodium, or other preservative; but the case is different with the invalid. The ingestion of even minute quantities of these protectives or of old milk, not yet sour, may, and probably does, induce positive injury. Even pasteurized milk may be undesirable, especially in the case of infants, as has been illustrated by the reports of many physicians. A healthy adult can drink pasteurized milk with impunity, provided the milk was good when pasteurized and did not need pasteurizing; but the same good milk pasteurized and used by a sick person might be open to serious objections. Dr. Wiley does not go so far as to regard sour milk as the elixir vitae; but, in some cases of low nutrition, has seen excellent results ob-

tained from sour milk or kumyss. He mentions that at the present time fresh, pasteurized, unchemicalized apple juice can be got in the United States. Grape juice, without sulphur, can also be obtained. These fruit juices, given in an unsophisticated form, are useful in the dieting of invalids and convalescents. The concluding remarks in his paper call for the careful consideration of the teaching faculties of the medical colleges. Dr. Wiley says: "In the progress of medical education, the near future, in my opinion, will see the professorship of dietetics in a medical school advanced to the same rank as that of medicine, and I am even going farther than this, and say that the practice of medicine in the future will be largely a practice of dietetics."

J. J. C.

PERSONALS.

DR. J. H. ELLIOTT, of 722 Spadina Avenue, Toronto, will be at Port Carling, Ont., from July 14th, returning to Toronto September 17th.

DR. T. S. WEBSTER sailed early in July to attend the British Medical Association, and visit Budapesth and other noted centres for medical education, and will return about Sept. 10th.

Obituary

DEATH OF DR. RATCLIFFE

Dr. Wm. G. Ratcliffe, only son of Rev. Dr. J. H. Ratcliffe, pastor of First Presbyterian Church of St. Catharines, and one of St. Catharines' most prominent physicians, is dead, after a few days' illness from acute typhoid fever. He was about 35 years of age, and was married only a short time ago to a daughter of W. C. McCall.

Dr. Ratcliffe was a very clever practitioner, and a man apparently of exceedingly robust health up to a day or two ago, when he was stricken down.

Proceedings of Societies.

THE CANADIAN ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS

The annual meeting of this Association was held in Hamilton on May 19th and 20th, in the recital hall of the Conservatory of Music.

The morning session of the first day was devoted to routine business, reception of reports, appointment of committees. In the afternoon the Association was formally welcomed by Mayor McLaren, who in the course of his remarks, pointed out that Hamilton was one of the leaders in Canada in taking preventive measures as regards consumption. He hoped that the day would come when the doctors' practices, as far as consumption patients were concerned, would be very much smaller. It was a preventible disease, and there was no reason why, in Canada, where there was plenty of room, there should be the congested conditions which caused so much of it. He was sorry to see a tendency in Hamilton towards making the streets narrower. The people would regret this if it was allowed to continue. Fortunately, this city was not troubled with the tenement trouble. He hoped the Association would succeed in disseminating information which would make the people more public-spirited in regard to the treatment of tuberculosis.

The afternoon address was given by Dr. Wm. Charles White, of Pittsburg, Pa., on "Municipal Supremacy in Tuberculosis," outlining what had been done by an Association in that city.

Consumption, he said, was the disease of poverty and the disease of wealth. It was responsible for one-eighth of the deaths in civilized countries and for one-half of the sickness. In its terminal stages it brought about results that were the saddest possible. He desired to leave the sentimental side of the sickness aside and to get down to the subject of the prevention of tuberculosis as a business proposition. Municipalities, that was the men directing them, should sit down, find out how much of the disease existed among them, and then correlate all the forces possible to combat it. It was only by united effort that they could overcome the dreaded complaint. Was it not worth while to fight this disease from a business and economic standpoint? The Illinois Government computed that it spent \$1,200,000 on the education of children who never reached a wage-earning age. Of course the disease

could never be entirely eradicated, but by the adoption of general preventive measures, they could reduce it to a minimum in the same way as they had typhoid fever and smallpox. It was the business of those carrying on an anti-consumption campaign to make it clear to everybody that an enormous toll in lives and money was being exacted by the disease, which could be done away with. There were three groups that should be interested. They were "the state or the province, the municipality and charitable institutions. These three should combine and decide upon a basic proposition, settle upon a central office, for preference in a city hall, and appoint the medical health officer to the charge of the work.

In Great Britain and Germany they had found that one very important factor was to remove the cause of infection, whether it was in the incipient or advanced stage, by caring for poor patients in special institutions. Properly attended to, patients were not dangerous to those around them. All they had to do was to observe the rules which consumption associations laid down for observation. When the patient had been cured, he should have some place in which he could work back to his normal labor capacity. He thought a farm colony was the best arrangement, where a patient could work fifteen minutes at first, and gradually increase the length of time as his strength returned. Those farm colonies were essential economic necessities, as too often the patient assumed normal work and again fell a prey to the complaint.

The associations should see about educating the municipalities into saturating the people with knowledge of the necessity of preventive measures. Of course he was not doing much good addressing a meeting of adults, as he was doing, because they were past the formative stage in impressions, but they could see to it that the children were educated to a due appreciation of the responsibility devolving upon them in this connection. In Pittsburg the nurse who visited the schools incorporated in the lessons advice about consumption, and this work was now being carried out systematically. In Pittsburg the churches have loyally co-operated with the Anti-Consumption Association, and have carried on educational work from the pulpit. Some thought they would be opposed by the medical fraternity. If they had the people with them they need not fear the criticism of anybody. He had not been in a hospital in Canada where proper precautions were taken to prevent infection. The authorities said they did not take consumption cases. But didn't they? They had unexamined maternity and operation cases that were capable of spreading it. In Pittsburg, through the instrumentality of the Anti-Consumption Association, burnable sputum cups were provided for three hospitals. This Association also secured the nurses and gave them an exten-

sion and practical course in the handling of consumptive cases, something they did not get in the ordinary routine of hospital-lectures. In this way, information gradually got into the homes. Then there were the orphan and lunatic asylums, which were rife with this disease; to which doctors, nurses and visitors were exposed. Absolutely no precautions were taken to check the disease in these institutions. The patients in each of these places should be segregated.

Dr. White next dealt with the measures taken in Pittsburg for the prevention of consumption among children. He said they were going to build an open-air schoolroom for the use of children affected. In this connection it was hoped that enough money could be secured to enable them to provide children with something to eat at 11 o'clock in the morning, and thereby do away with much of the weak resistance powers so many children suffered from when they had left home, as they often did, without breakfast. His Association also did a mail educational work, sending out little bulletins of advice every month to parents and others.

Their business was to get the public ready, and then the government would do anything they asked of it. An example worth following was that now being set by Hamilton. The Provincial Government could not be held responsible when the municipalities and cities did so little. They should get hold of as many people as they could, and get them interested, and those people that invested money would find that they got ample return for their investments.

The evening address was given by Prof. J. George Adami, of Montreal, before an audience which completely filled the recital hall. His subject was "Economics and Success in the Tuberculosis Crusade." In his study of the problem, Dr. Adami has been forced to the conclusion that notwithstanding the excellent results of treatment of patients in sanatoriums, the method is too expensive to be practical, that is on a scale large enough to be a marked factor in the lessening of tuberculosis. Each municipality must care for its own tuberculous patients, with the assistance of the Government, and of the philanthropic public. Prevention, too, is a municipal problem, and must be faced by the local sanitary authority when sufficient powers are given by the Province. The work being done in Montreal by the local League is detailed. The address is so interesting that we have reported the principal part of it elsewhere in this issue. For this we extend our thanks to the *Hamilton Herald*.

At the close of this session the physicians in attendance were the guests of the Hamilton Medical Society at the Hamilton Club, where, after supper had been served, two hours were pleasantly and profitably spent in a discussion on tubercular and other

modern methods of treatment. Dr. J. Heumer Mullen, the President of the Medical Society, occupied the chair, and the discussion was opened by Dr. W. C. White and Prof. Adami.

The second day's session was devoted to a discussion of "The Responsibility of the People in Tuberculosis," opened by Dr. R. J. Lockhart, Hespeler, and continued by Dr. J. D. Lafferty, of Calgary, Dr. R. M. Simpson, of Winnipeg, and Judge John A. Barron, Stratford. Mrs. Dunan, of London, gave a brief account of her work amongst the factory girls of that city.

In the afternoon the Association were the guests of the Hamilton Health Association at the Mountain Sanatorium, where they were received by Mrs. P. D. Crerar. Those who had no previous opportunity to visit this well-equipped and well-managed Sanatorium were full of expressions of delight and appreciation of the splendid work being done there. The example being set by Hamilton in its crusade against tuberculosis cannot but be an inspiration and example to other cities.

The following officers were elected:

President—Prof. J. G. Adami, Montreal.

Vice-Presidents—Hon. Senator Edwards, Ottawa; H. H. Miller, M.P., Hanover; William Southam, Hamilton; James Manuel, Ottawa; J. G. Rutherford, Ottawa; Sir James A. Grant, Ottawa; George H. Perley, Ottawa; Hon. Senator Beique, Montreal; Dr. L. Laberge, Montreal; J. D. Boland, Montreal; J. A. Hutchison, Montreal; Dr. Gordon Bell, Winnipeg; Hon. W. R. Motherwell, Regina; Hon. W. H. Findlay, Edmonton, Alta.

Treasurer—George Burn, Ottawa.

Secretary—Rev. Dr. Moore, Ottawa.

Associate Secretary and Organizer—Dr. G. D. Porter, Toronto.

Executive Committee—Right Rev. Bishop of Hamilton; Sir Hugh Graham, Hon. F. A. Lawrence, J. W. Daniels, M.P., Dr. J. D. Lafferty, C. J. Fagan, M.D., Dr. R. W. Bruce-Smith, Dr. J. H. Elliott, Dr. R. M. Simpson, Rev. T. H. Boyd.

The Association will meet next year in Montreal.

J. H. E.

THE INTERNATIONAL MEDICAL CONGRESS

The sixteenth International Medical Congress will be held at Budapest this year from August 29th to September 4th. The Congress is under the patronage of the King of Hungary (the Emperor of Austria), who will be represented by his Imperial and Royal Highness, the Archduke Joseph.

SECTIONS.

The work of the Congress will be distributed among twenty-one sections, as follows:

1. Anatomy, embryology. 2. Physiology. 3. General and experimental pathology. 4. Microbiology (bacteriology), pathological anatomy. 5. Therapeutics (pharmacology, physical therapeutics, balneology). 6. Internal medicine. 7. Surgery. 8. Obstetrics and gynecology. 9. Ophthalmology. 10. Diseases of children. 11. Diseases of the nervous system. 12. Psychiatry. 13. Dermatology and venereal diseases. 14. Diseases of the urinary tract. 15. Rhinology and laryngology. 16. Otology. 17. Stomatology. 18. Hygiene and immunity. 19. Forensic medicine. 20. Military and naval sanitary services. 21. Maritime medicine and tropical diseases.

GENERAL MEETINGS.

There will be six general meetings—"not contradictory," as is stated in the official circular, which, we presume, means that discussion will not be allowed.

The following addresses, among others, will be delivered at these meetings:

Professor Baccelli, of Rome: The administration of heroic remedies by the veins.

Dr. E. F. Bashford, of London: On cancer.

Professor R. Kutner, of Berlin (by request of the Prussian Central Committee of Medical Education): Medical education.

Dr. A. Laveran, of Paris: Tropical pathology.

Professor J. Loeb, of Berkeley (University of California): Artificial parthenogenesis and its bearing upon the physiology and pathology of the cell.

An address on representations of disease in the pre-Columbian era will be delivered on one of the days during which the Congress is in session by Dr. E. Hollander, of Berlin.

The general secretary of the Congress is Mr. Em. de Gross. Applications relative to the Congress should be addressed up to August 24th to the Secretariate, VIII Esterhazy utca. 7, Budapest;

after that date they should be addressed to the general offices of the Congress.

EXCURSIONS.

Excursions to various places of interest have been arranged. Among the places to be visited are Kolozsvár, the ancient capital of Transylvania; Marosujvár, with its salt mines, lighted by electricity; the High Tatra, described as the "El Dorado of tourists"; the famous ice-cavern of Dobsina; Lake Bala, often called the Hungarian Sea; the Lower Danube; Constantinople, Athens, Corfu and Trieste; Bosnia-Herzegovina, Dalmatia, and the Hungarian littoral. Applications relative to lodgings and excursions should be addressed to the Central Travelling-Ticket Office, IV. Vigado ter. 1. Budapest, Hungary (Telegraphic address Menetjegyiroda-Budapest).

OTHER MEETINGS.

The International Medical Press Association will hold its general meeting at Budapest before the Congress.

The Permanent Bureau of the International Bureau for the Protection of Infancy will meet at Budapest on August 28th.

Physicians who are contemplating a trip to Budapest to attend the Congress will find it to their advantage to join the American party that is being organized by Dr. Charles Wood Fassett, of St. Joseph, Missouri. A 41-day trip for \$395, including hotel bills and all expenses, has been arranged, with privilege of returning later if desired.

CANADIAN MEDICAL ASSOCIATION MEETING, WINNIPEG, MAN., 1909

The Canadian Pacific Railway Company issues, per W. Maughan, City Passenger and Ticket Agent, Toronto, the following circular, giving particulars of transportation arrangements which have been put in effect for the above meeting:

Tickets to be issued from Saturday, August 14th, 1909, to Saturday, August 21st, 1909.

Properly validated certificates will be honored at Winnipeg ticket offices for return tickets up to and including Saturday, September 25th, 1909.

Tickets will be issued on certificate plan arrangement, i.e., delegates purchase one-way first-class tickets, for which single first-class fare will be collected, plus 25 cents, and issuing agent will give with ticket a standard form of railway certificate, which upon being properly executed at Winnipeg, will be honored at Canadian

Pacific Railway ticket office for ticket back to original starting point, as follows:

If fifty or more delegates are in attendance from points east of Port Arthur in Canada (Eastern Canadian Passenger Association territory), holding standard form of railway certificate, tickets will be issued for return journey free (see Lake Route exceptions).

If forty-nine or less are in attendance on conditions outlined in next preceding paragraph, tickets will be issued for the return trip at the difference between the regular one-way and regular return fare, applicable from original starting point to Winnipeg.

First-class all-rail one-way rate, Toronto to Winnipeg is...\$26.05

First-class lake and rail one-way rate, Toronto to Winnipeg,

is 31.95

Where delegates desire on going trip to travel by rail-route and return by lake route, Canadian Pacific steamships, Fort William to Owen Sound, they will be sold tickets from starting point to Winnipeg at the lowest one-way first-class rail fare, plus 25 cents, and when they have their certificates exchanged at Winnipeg for return trip, by lake route, they will be charged \$8.50 additional.

Where delegates travel by lake route, Canadian Pacific steamships, Owen Sound to Fort William, and desire to return by rail route, they will be sold tickets from starting point to Winnipeg at the lowest one-way first-class lake fare, plus 25 cents, and when they have their certificates exchanged at Winnipeg for return trip by rail route, they will be charged \$3.50 additional.

Where delegates desire to travel by lake route, both going and returning, Canadian Pacific steamships between Owen Sound and Fort William, they will be sold tickets from starting point to Winnipeg at the lowest one-way first-class lake fare, plus 25 cents, and when they have their certificates exchanged at Winnipeg for tickets returning trip by lake route, they will be charged \$12.00 additional.

The above additional amounts to be collected at Winnipeg when certificates are exchanged for tickets for return trip, and provided fifty or more persons are in attendance from E.C.P. Assn. territory, Port Arthur and East, in Canada. If less than fifty in attendance, tickets will be sold for the return trip at the difference between the fare paid on the going trip and regular fare applicable by route travelled.

Canadian Pacific "Winnipeg Flyer" runs on following schedule: Leave Toronto 10.10 p.m. daily. Arrive Winnipeg 11.55 a.m. second day.

This train is made up of Canadian Pacific highest standard equipment, consisting of baggage car, colonist car, tourist sleeping

cars, first-class sleeping cars and dining car, and runs through solid Toronto to Winnipeg.

Canadian Pacific Upper Lake service will be as follows:

	S.S. "KEEWATIN"	S.S. "MANITOBA"	S.S. "ASSINIBOIA"
Leave Toronto	Tues. 1.00 p.m.	Thurs. 1.00 p.m.	Sat. 1.00 p.m.
Arrive Owen Sound ...	" 4.50 p.m.	" 4.50 p.m.	" 4.50 p.m.
Leave Owen Sound....	" 5.00 p.m.	" 5.00 p.m.	" 5.00 p.m.
Arrive Fort William...	Thurs. 7.30 a.m.	Sat. 12.00 noon.	Mon. 7.30 a.m.
Leave Fort William...	" 8.20 a.m.	" 8.50 p.m.	" 8.20 a.m.
Arrive Winnipeg	" 9.20 p.m.	Sun. 9.45 a.m.	" 9.20 p.m.

The new steamships "Kewatin" and "Assiniboia" are models of luxury and the finest product of modern ship-building and skill. Time-table above speaks for their speed and seaworthiness. All first-class tickets include meals and berth on Canadian Pacific Upper Lake steamships. A slight additional charge is made for the exclusive use of the cabins de luxe.

In addition to above, tickets will be issued via all regular routes, via Detroit, Chicago, Sault Ste. Marie, and St. Paul to Winnipeg.

The rate for first-class sleeping car berth, Toronto to Winnipeg, is \$8.00, and for berth in tourist car \$4.00.

Delegates from points in Canada, east of Port Arthur, will have the privilege of arranging side trips as follows:

To points in Manitoba, Alberta and Saskatchewan, from Winnipeg, at lowest one-way first-class fare for round trip; dates of sale, August 25th to September 24th, with final limit of September 25th, 1909.

To points in British Columbia (except Pacific Coast points, for which Alaska-Yukon-Pacific Exposition rates will apply), and Kootenay, from Winnipeg at lowest one-way first-class fare for the round trip; dates of sale August 24th to September 4th, inclusive; final return limit September 25th, 1909.

Side trip tickets, as above, will be issued to bona-fide delegates, holding certificates of attendance.

Application for sleeping car or upper lake steamship accommodation should be made to W. Maughan, City Passenger and Ticket Agent, Toronto.

The Physician's Library.

BOOK REVIEWS

The Practical Medicine Series. Comprising Ten Volumes of the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago Post-graduate Medical School. Volume 11. Edited by JOHN B. MURPHY, A.M., M.D., LL.D., Professor of Surgery in the Northwestern University; Attending Surgeon and Chief of Staff of Mercy Hospital, Wesley Hospital, St. Joseph's Hospital and Columbus Hospital; Consulting Surgeon to the Cook County Hospital and Alexian Brothers Hospital, Chicago, Illinois. Series 1909. Chicago: The Year Book Publishing Company, 40 Dearborn Street.

This is a useful resumé of current surgical literature. We suppose it is but human nature that "Murphy" should be so frequently quoted, when the volume is prepared under his supervision. A hasty review of the contents shows that more is being written on the subject of bone and joint lesions, suture of peripheral nerves, and some on the removal of emboli before gangrene occurs. The book is well worth having.

F. N. G. S.

The Theory and Practice of Infant Feeding. By HENRY DWIGHT CHAPIN, A.M., M.D., Professor of Diseases of Children, New York Post-graduate School and Hospital, etc. Third Edition Revised.

The past seven years have been marked by no greater advance in medical literature than that devoted to Pediatrics, and specially to that part, of such vast value to humanity at large, infantile feeding. It was in 1902 that Dr. Chapin presented his first edition of this work, which was at once received most favorably by the profession. In 1904 a second edition was published. February of this year the third edition was presented. The work is good. No man who undertakes to prescribe for a bottle-fed baby intelligently can possibly do so without a thorough acquaintance with the precepts and practice laid down by such a work as this. Dr. Chapin says most truly: "Instead of making the superficial chemical composition of mother's milk the starting point, and striving to make an artificial human milk, as has been the

case, it is more and more coming to be seen that the infant is subject to the general laws of animal life, and often these can be conformed to in a number of apparently different ways. Methods formerly condemned as unscientific although they gave good results, are now seen to be in strict accordance with natural biological laws, whilst some procedures formerly taught as scientific have been shown to be the reverse." He shows throughout the whole work an effort to treat infant feeding from the standpoint of biology, not empirically, nor by decimal fractions, such as many teachers and authors during the past have been striving to preach and teach as the only true and proper method of feeding a baby "according to Hoyle." The work is greater than mere baby feeding, the first ten chapters being devoted to a clear and well written dissertation, Growth and Cell Division, Processes of Digestion, Classification of Foods, Metabolism and Excretion, etc. Then Part II. gives an excellent resumé on Cow's Milk, Market Milk, Proprietary Infant Foods, Preservation of Milk, Bacteriology, etc. Part III., Practical Feeding, Diet at later Age, Constipation, Diarrhea, etc. Part IV., forty pages of scientific work concerning the growth and development of infants.

We think the work a desideratum for any general practitioner; a good reference handbook. Not diffuse, still nothing scamped or slurred, and, therefore, can heartily recommend it to our readers. The print and illustrations are worthy of the well known house, William Wood & Company.

A. B.

The Problem of Age, Growth and Death. A Study of Cyto-morphosis, based on lectures at the Lowell Institute, March, 1907. By, CHARLES S. MINOT, LL.D. (Yale, Toronto) D.Sc. (Oxford); JAMES STILLMAN, Professor of Comparative Anatomy in the Harvard Medical School, President of the Boston Society of Natural History. Illustrated. G. P. Putnam's Sons (New York and London), The Knickerbocker Press. 1908. For sale at Tyrrell's book shop, \$3.00.

It is the physician's problem to make as long a space as possible between the periods of growth and death in humanity; so this is primarily a physician's book, though written in language so simple as to be intelligible to the non-professional reader. It does not add to the physician's armamentarium in his fight with disease, but increases his knowledge of the processes of decay and death.

"The conclusion of the whole matter," is that "natural death is the consequence of cellular differentiation." This conclusion is open to many comments, and surely does not express all the law of senescence, since those creatures with least cell differ-

entiation are shortest lived. The great riddle of life and death is still unsolved.

The book is interesting and illuminating, and brings its readers to the front in this department of science. J. S. H.

Araminta. By J. C. SNAITH. Publishers, William Briggs, Toronto.

As the season is now here when one is on the lookout for books to amuse and pass on to others at the summer resorts, "*Araminta*" should not be forgotten. Amusing, with here and there a quaint touch, as if the author was falling a bit in love with his heroine himself and then stopped and turned the light of laughter upon his own silliness in creating anything lovable, his artist hero is well drawn and so are the characters of the older people in this bright story. W. A. Y.

Experimental Pharmacology. A Laboratory Guide for the Study of the Physiological Action of Drugs. By CHARLES WILSON GREENE, Ph.D., Professor of Physiology and Pharmacology. University of Michigan. Third edition; revised; with 37 new illustrations. Philadelphia: P. Blakestor's Son & Co., 1012 Walnut Street. 1909.

This, the third edition, has been revised, and some additional experiments have been added, with more illustrations. It will be found very useful to the student of experiments, as a guide, but is not sufficiently explanatory, except to one who would be acquainted with the author's *modus operandi*. S. J. N.

Heredity and Disease.

This book, published by Longmans, Green & Company, contains a report of a discussion by the Royal Society of Medicine on "The Influence of Heredity on Disease, with Special Reference to Tuberculosis, Cancer and Diseases of the Nervous System." Sir William Church, Sir William Gowers, Dr. Arthur Latham and Dr. E. F. Bashford open the discussions. Other eminent authorities take part in the debates.

Dr. Mudge, of the London Hospital, comes out as a warm advocate of mendelism in the study of heredity, while Karl Pearson strongly opposes and as strongly advocates the biometric principle. Many allusions are made to the subject of mendelism throughout the debate. Dr. Gorsage pointed out that when a normal person marries an abnormal the progeny are not a compromise between the two parents, but that some of the children are normal, and others abnormal.

With reference to the subject-matter proper, it is conceded

that inheritance may play a part in the production of disease, but the disease *per se* is not inherited; though one of the speakers, Mercier, holds that whenever disease is displayed in successive generations in accordance with mendelism we cannot doubt that the disease is truly inherited. He holds the comfortable doctrine that variations are difficult to fix, easy to breed out, and give us little anxiety about the future of the family in which they occur.

Great emphasis is placed by many of the speakers on the importance in the study of heredity of securing a proper pedigree. The family history is most important. In many instances the inquiry is too perfunctorily made. Pearson holds that a good pedigree is almost a work of art. He holds that if but one man in ten would once in his life construct two perfect pedigrees, we should in the course of a generation have all the material needed to answer the questions of the inheritance of deformity and of the constitutional tendency to special diseases.

Bashford holds that cancer is probably always acquired. Butlin reports that in the study of patients with cancer he observed that in previous generations instead of being scattered irregularly on the mother's or father's side, the cases were all on one side, or all on the other.

A Manual of Infectious Diseases. By E. W. GOODALL, M.D., Lond.; Medical Superintendent of the Eastern Hospital of the Metropolitan Asylums Board; formerly Medical Registrar to Guy's Hospital; and J. W. WASHBOURN, C.M.G., M.D., Lond.; F.R.C.P., late Physician to Guy's Hospital and Lecturer in the Medical School; Physician to the London Fever Hospital, and Consulting Physician to His Majesty's Forces in South Africa. Second edition, revised and enlarged by E. W. Goodall. London: H. K. Lewis, 136 Gower St., W.C. 1908.

This is the second edition of a book that has been before the profession since 1896, and has in all that time held its place. It still holds its former high position, and must be looked upon as being arranged particularly with a view to its value as a practical instructor.

Originally it was written for the use of students, and, while it is of the greatest use in supplementing bedside teaching, it is of equal value or perhaps even greater in the hands of the medical practitioner, who has perhaps forgotten the finer distinctions of diagnosis in the eruptive fevers.

The present volume is changed both in the matter that it contains and the arrangement of the volume, and it has many additions, with new chapters on glanders, cerebro-spinal fever and plague. There are also many new illustrations. The aim of the book is to give to the reader, besides the clinical history, an idea

of the ordinary appearances which are referred to in the text. The photographs are very interesting, and as they are not colored have the advantage of showing the reader exactly what he may expect, and leaving it to him to put in the coloring. The photographs, taken from the microscopical specimens of the bacilli, are very delicate and accurate.

Of such value is this book that it would be difficult for any man who has this at hand to make a mistake with regard to the diagnosis of infectious diseases.

A. J. J.

Physiological and Medical Observations Among the Indians of Southwestern United States and Northern Mexico. By ALEX HRDLICKA. Washington: Government Printing Office, 1908.

From 1898 to 1905, in the course of six expeditions, the writer visited nearly all the Indian tribes in Southwestern United States and in Northwestern Mexico. These expeditions were made primarily in the interest of physical anthropology, but, as a physician, the writer had exceptional opportunities for acquiring information of a physiological and medical nature. The results of his observations are presented in this book, which is known as Bulletin 34, of the Bureau of American Ethnology, Smithsonian Institution.

The author describes in detail the general habits of life, character and social condition of these Indians. These include clothing, dwellings, occupations, food, alcoholic drinks and so on.

Under "Medical Observations" he gives the Indian conception of disease, its prevention and treatment, their folk medicine and their medicine-men being included in the description. He also describes the diseases most prevalent among Indians in various parts of the United States.

The Bulletin contains many diagrams and excellent photographs, showing various types of Indians, and giving pictures of their dwellings. It is a very interesting and readable account of Indian life.

A. E.

Lectures. On the Use of Massage and Early Movements in Recent Fractures and other Common Surgical Injuries, Sprains and Their Consequences, Rigidity of the Spine, and the Management of Stiff Joints Generally. By SIR WILLIAM H. BENNETT, K.C. V.O., F.R.C.S.; Consulting Surgeon to St. George's Hospital and to the Hospital of St. John and Elizabeth; Senior Surgeon to the Seamen's Hospital, Greenwich, etc. Fourth edition, with 23 Illustrations. Longmans, Green & Co., 39 Paternoster Row, London. New York, Bombay, and Calcutta. 1909. All rights reserved.

Just Lucas-Championiere and Sir William H. Bennett have been hammering away on massage and early movements in the

treatment of fractures, Lane becomes more and more an advocate of the open method of treatment, while the rank and file go on in the same old haphazard way with "Set the fracture—which they rarely succeed in doing—and put on a splint." Out of the chaos surely good will come, and perhaps the next generation will not find it necessary to condemn their victims to a stiff joint or a shortened limb.

Those who have not read Bennett's work should secure it and digest it thoroughly, for it should help materially to a better understanding of what is expected from the treatment.

F. N. G. S.

Miss Minerva and William Green Hill. By FRANCES BOYD CALHOUN. Illustrated. Publishers: The Musson Book Company, Limited, Toronto.

William Green Hill is not only the latest but the most amusing little kid cute 'un in the story book world of to-day. He is a winning, irresistible child of the south, and his Aunt Minerva is quite worth the place allotted to her in this fascinating little story. Every woman who reads about him will want to kiss William Green Hill, and every man will want to hoist him to his shoulder and shout, "Boys, he's the real thing." W. A. Y.

Intestinal Auto-Intoxication. By A. COMBE, M.D., Professor of Clinical Pediatrics at the University of Lausanne (Switzerland); Chief of Clinic for Children's Diseases; President of the Swiss Pediatric Society. Together with an Appendix on the Lactic Ferments, with particular reference to their application in Intestinal Therapeutics, by Albert Fournier, formerly Demonstrator at Sorbonne, Paris. Only authorized English adaptation by William Gayno States, M.D., Clinical Assistant Rectal and Intestinal Diseases, New York Polyclinic; Member of the American Medical Association; Member of State and County Medical Society of New York; West Side Clinical Society, etc. With eighteen figures in the text, four of which are colored. New York: Rebman Company, 1123 Broadway. Cloth, \$4.00.

The work under review is written by Dr. Combe, who is the Chief of Clinic for Children's Diseases in Lausanne, Switzerland. The author, however, does not by any means restrict himself to diseases in children, but his monograph on Gastro-Intestinal Auto-Intoxication is also written with reference to conditions which obtain in the adult.

The various toxic substances which are found in the intestinal tract are very fully described, indicating the genesis of both living organisms and the chemical substances which comprise the group.

An interesting section is devoted to a consideration of the resistance instituted in the body for the purpose of combating the

effect of various toxins, both in the intestinal canal itself and in the various organs, such as the liver, kidney, etc., which have to do with the destruction and elimination of intestinal poisons.

The pathology of the class of diseases under consideration is fully discussed, including suggestive reference to experimental work in connection therewith.

There is an elaborate description of the symptomatology and diagnosis, whilst perhaps the most important and interesting part of the work consists in the portion of it devoted to treatment. This portion is written in a thoroughly scientific spirit, and is based upon a thorough knowledge and consideration of the etiology and pathology of these diseases.

When one states that the book is written in a lucid and logical fashion along the lines which have been indicated above, it will become obvious that it forms a very important contribution to the literature of Intestinal Auto-Intoxication, and we would recommend it therefore to practitioners in general as well worthy of study. It will certainly be found most valuable to the general practitioner who wishes to have an intelligent knowledge of the conditions with which he has to deal in this common class of diseases.

A. P.

Vaccine and Serum Therapy, including also a Study of Infections, Theories of Immunity, Opsonins and the Opsonic Index. By EDWIN HENRY SCHORER, B.S., M.D., Assistant Professor of Parasitology and Hygiene, University of Missouri; formerly Assistant, Rockefeller Institute for Medical Research, New York City. Illustrated. St. Louis: C. V. Mosby Co. 1909.

This work, of 124 pages, deals with Infections, Immunity, Opsonins and the Opsonic Index in health and disease, and with Vaccine Serum and Therapy. The object of the work is to give a concise and accurate statement of our present knowledge of the various vaccines and immune sera. Wright's work is reviewed, and a great deal of his technique given in the collection of serum, preparation of various opsonic index, etc. This book will be found valuable to those interested in this coming branch of our work.

M. J. W.

Studies in Clinical Anatomy. Including the Heart Vessels and Lungs. By DR. RAYMOND TRIPIER, Professor in the Faculty of Medicine at Lyons. Published in Paris by Steinheil.

The author calls attention to the fact that clinical anatomy, or the anatomy of disease, has received attention from many noted physicians in his own country, among whom are named Laennec, Andral, Louis, Vouillaud, Cruveilhier, in presenting his work upon the heart and lungs, but draws upon the work done by noted

observers the world over. Among those best known to English readers are Osler, Paget, Prudden and Goodhart. To the ordinary medical reader, it is surprising what an amount of interesting and valuable material may be found in the consideration of the diseased tissues within so limited an area as that discussed by this book. The illustrations, while not as numerous as one might desire, set forth with reasonable clearness the pathological conditions involved. For those who can make ready reference to the various chapters on these conditions, the book, as setting forth the most modern views, will prove highly valuable.

B. E. M.

Aids to Forensic Medicine and Toxicology. By WILLIAM MURRELL, M.D., F.R.C.P., Physician to and Lecturer on Clinical Medicine in the Westminster Hospital, Joint Lecturer on Medicine in the Westminster Hospital Medical School, late Examiner in the Universities of Edinburgh, Glasgow and Aberdeen, and to the Royal College of Physicians, London. Seventh Edition. Sixteenth thousand. London: Baillière, Tindall & Cox, 8 Henrietta St., Covent Garden. 1909.

Dr. Murrell's small book has just appeared in its seventh edition. It is divided into two parts; part one dealing with Forensic Medicine, and part two with Toxicology. The book covers in all nearly 125 pages and has been carefully revised. A good deal of new material has been added to Part I., and those of the profession interested in Forensic Medicine and Toxicology will find the work worthy of careful perusal.

W. A. Y.

The Sword of the Lord. By JOSEPH HOCKING, Author of "A Strong Man's Vow," "A Flame of Fire," etc. With frontispiece in colors by MAX COWPER. Publishers, Cassell & Co., Ltd., Toronto.

"The Sword of the Lord" is a stirring story of Luther and his times, written with the author's well-known power.

Brian Hamilton is sent to Germany by Henry VIII. to bring a lady of noble birth to England, where her presence is required for political reasons. The King has chosen Hamilton for the task partly because the latter is reputed to be a woman-hater, and Henry does not desire a messenger likely to fall in love with the lady. But even so absolute a monarch as Henry VIII. is not always able to stay the tide of love.

Brian's mission is surrounded by almost overwhelming difficulties, for, at the time of his arrival, Germany is in a state of ferment, owing to the growth of the Reformation. He meets Luther and Erasmus, and has many thrilling experiences in the execution of his important mission.

Messrs. Bailliere, Tindall & Cox, of 8 Henrietta Street, Covent Garden, London, announce that they have taken over the publication of all the books by Sir William Whitla, including "Materia Medica," "Practice of Medicine," and his well-known "Dictionary of Treatment," a new edition of which will be shortly issued. They are also now the publishers of Green's "Pathology and Morbid Anatomy," a tenth edition of which is in circulation.

These changes are the result of the retirement from business after more than 40 years' work, of Mr. William Renshaw, the head of the old established firm of Henry Renshaw, which has now ceased to exist.

Messrs. Bailliere, Tindall & Cox have also the following new works and new editions in active preparation: Dieulafoy's "Text Book of Medicine," translated by V. F. Collins, M.D., Lond.; "Manual of Massage," by M. A. Ellison, L.O.S., 3rd edition; "Practical Microscopy," by F. Shillington Seales, F.R.M.S., 2nd edition; "Aids to Analysis of Food and Drugs," by C. G. Moor, F.I.C., and W. Partridge, F.I.C., 2nd edition; "Sanatorium Treatment of Tuberculosis," by Rufenaecht Walters, M.D.; "Surgical Anaesthesia," by Bellamy Gardner, M.R.C.S.; "Aids to Mathematics of Hygiene," by R. Bruce Ferguson, M.D., 3rd edition; "Chemical Notes and Equations," by G. H. Gemmell, F.I.C., 2nd edition; "Gynaecological Therapeutics," by S. J. Aarons, M.D.; "Incidence of Sex and Age on Disease," by J. Grant Andrew, F.F.P.S.; "Menstruation and its Disorders," by Arthur F. Giles, M.D., 2nd edition. Also, reprint of the second edition of "Minor Maladies," by Leonard Williams, M.D.

Mr. H. K. Lewis has purchased the remainder of the stock of the New Sydenham Society's publications, comprising the collection of volumes on medicine and surgery, the "Pathological Atlas," the "Lexicon of Medical Terms," and the "Atlas of Clinical Medicine, Surgery and Pathology," issued by the Society during the years 1859-1907. Many of the works were of a pioneer character when issued by the Society, and have since acquired a classic and historic importance. The number of copies of each book has been of necessity limited on account of the heavy expense of warehousing a larger stock, and of many of the volumes only a small number remained over.

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Original Contributions.

THE LATE GLASGOW, EDINBURGH AND BELFAST EPIDEMIC OF CEREBROSPINAL MENINGITIS

BY W. L. T. ADDISON, B.A., M.D.

IN discussing epidemic cerebrospinal meningitis under the above caption one does so in that this is one of the latest of the large epidemics of this disease; and from such careful observers as Robertson, of Leith, Chalmers, of Glasgow, and Robb, of Belfast, one should obtain the latest word.

This epidemic showed itself first in Glasgow in March of 1906, being observed chiefly in the poorer and more congested areas of the north and east wards.

In August, the Medical Health Board took action under the Infectious Diseases Act, making compulsory the notification of this malady. During the later months of 1906 a few deaths from cerebrospinal meningitis were reported in Edinburgh and Paisley. In January of 1907 the disease broke out in Belfast and the epidemic was so severe in type that Belfast followed the example of Glasgow in making the disease notifiable for one year. In the end of December, 1906, and January, 1907, cases were reported in Leith, which is the port of Edinburgh. These cases appeared in bunches, sometimes days together passing without a case reported, to again have 9 or 10 reported within 24 hours.

The severity of the epidemic may be estimated from the following table. For the data of this table I am indebted to the Department of Statistics in the office of the Registrar-General of Scotland.

Deaths from cerebrospinal meningitis in eight of the principal

towns of Scotland, 1906-1908. These data, unfortunately, give the death rate only and from these the number of cases can only be surmised:

	GLASGOW.	EDINBURGH.	DUNDEE.	ABERDEEN.	PAISLEY.	LEITH.	GREENOCK.	PERTH.
Population, 1907.....	847,584	345,747	165,748	174,579	88,710	83,668	71,269	34,866
1906—May	5	..	..	..	..	..	..	..
June	27	..	..	1	..	..	..	..
July	23	..	..	..	..	..	..	..
August	21	..	..	..	..	..	..	..
September ..	11	..	1	..	2	..	..	..
October	15	1	..	..	1	..	..	..
November ..	26	1	..	..	1	..	..	..
December ..	19	1	..	..	..	..	..	..
Totals	147	3	1	1	4	..	..	..
1907—January	66	5	..	..	1	2	..	..
February ..	111	13	3	..	8	5	..	..
March	135	19	2	..	5	16	2	..
April	112	38	6	..	..	18	3	..
May	96	14	8	..	5	19	1	..
June	52	21	1	..	2	6	..	..
July	37	14	1	..	1	8	..	..
August	30	5	4	1	3	3	1	1
September ..	29	8	4	1	1	1	..	..
October	19	6	..	..	1	2	1	..
November ..	14	2	1	..	1	2	1	..
December ..	10	3	..	1	2	4	..	..
Totals	711	138	30	3	30	86	9	1
1908—January	15	7	2	..	..	..	2	..
February ...	22	4	1	1	3	2	..	..
March	18	3	..	..	2	4	..	..
April	20	2	1	..	..	4	1	..
May	13	2	1	..	..	1	..	..
June	7	1	..	..	..	..	1	..
July	15	1	..	..	..	2	..	..
August	13	5	1	..	..	..	..	..
September ..	11	1	..	1	..	..	1	..
October	8	..	..	..	..	..	..	..
November... .	5	..	..	..	..	..	..	..
Totals	147	26	7	2	5	13	5	..

In Belfast, the epidemic commencing in January, 1907, lasted to June, 1908, during which time 725 cases with 548 deaths were reported, thus giving a mortality of 75.4 per cent.

It is of interest to note the death rate for the following cities:

Glasgow	1	in approximately	845
Edinburgh	1	"	2,000
Dundee	1	"	5,000
Aberdeen	1	"	35,000
Paisley	1	"	2,500
Leith	1	"	840
Greenock	1	"	5,000
Perth	1	"	35,000
Belfast	1	"	600

Thus indeed may be summed up succinctly the statistics of the epidemic. It remains now to sum briefly the observations made by various investigators during the epidemic.

Drs. Iver MacKenzie and W. B. Martin found the diplococcus intracellularis in the throat and nose of many cases of cerebrospinal meningitis and contacts in Glasgow. Frequent post mortem sagittal sections of the skull failed to reveal any direct extension of the disease from the nasal passages to the meninges. The organisms were found to be causative in two cases of malignant endocarditis and were present as a pure culture in the pericardium, the plurae, the spleen and the joints, and were even found in the urine. Dr. Symmes, of Belfast, found in 15 blood cultures from cases of cerebrospinal meningitis the meningococcus to be present three times. It is of interest to collaborate the findings of Drs. Mackenzie and Martin with those of Dr. Kerchner on an epidemic, and Dr. Flexner in experimental work.

Dr. Kerchner found in 635 cases of cerebrospinal meningitis the diplococcus to be present in the naso-pharyngeal areas 146 times, and in 213 contacts it was present 26 times.

Dr. Flexner, in experimental cerebrospinal meningitis produced by the injection of the diplococcus intracellularis into the spinal sac of monkeys, found the infection to spread outward to the frontal sinuses by the olfactory lobe and membrane, and even the nasal mucous membrane to become congested.

Dr. Symmes found in post mortem examination, held by him in Belfast, on cerebrospinal meningitis cases, an intestinal hyperemia, enlarged markedly hyperemic or hemorrhagic mesenteric glands, a peculiarly yellow mottled surface of the liver, enlarged thymus gland, and a general prominence of lymphatic tissue. Similar post mortem conditions were, however, produced in a monkey by Dr. Stuart MacDonald, by injecting into its spinal cord the spinal fluid from a case of cerebrospinal meningitis.

Drs. MacKenzie and Martin found the blood to exert a markedly bactericidal action upon the meningococcus, while the serum of the cord showed very little such action indeed. So marked indeed was the difference that these two investigators used the blood serum of convalescent patients to inject into the meningeal sac of those in the acute stage, and in 14 unselected cases had 8 recoveries with 6 deaths. In two other acute cases they injected the serum from the patient himself into his own meningeal sac with recovery in both cases.

The above evidence goes to show that in Dr. Kerchner's statistics 23 per cent. of the cases give presumptive evidence of the source of infection being the naso-pharyngeal areas. The evidence, however, is that the course of infection is not by continuity of tissue to the meninges, but rather that the disease is a general

one of the body carried by the blood, and one against which the blood is a marked defence, so that the areas attacked are those not immediately protected by this defence.

Flexner has shown by laboratory experiment that the meningococcus has a very marked autolytic action. Such an action coupled with the bactericide action of the blood (as shown by Drs. MacKenzie and Martin) should give a very low range of infection. Such, indeed, is the condition observed by Dr. Chalmers, of Glasgow, who says: "(1) Under average conditions the disease is possessed of a limited range of infection. (2) That it spreads in the majority of instances through the agency of an intermediary analogous to a carrier case in diphtheria. (3) The malady under conditions which tend to produce an impurity in confined spaces is capable of assuming the characteristics of a true air-borne disease, such as typhus or measles, and then to attack a considerable number of persons breathing the air. None of the staff of the hospitals or nurses were infected." Dr. Archibald, one of Dr. Chalmers' assistants, however, was attacked six days after visiting a house in which the disease was present and in which the conditions were particularly filthy.

Dr. Robb, of Belfast, reports the disease as but slightly infectious in character, none of the hospital staff or nurses contracting the malady. As an example of its low infectivity, he quotes the following cases: Three mothers were admitted to nurse their infected infants and remained healthy themselves; two infected mothers were admitted with their nursing infants and both children remained healthy.

So much for the evidence and lack of evidence of the process of infection within the body.

Dr. Robertson, of Leith, has very admirably worked out some extra-corporal processes of infection in this epidemic. Dr. Robertson points out that Leith is the seaport town of Edinburgh, and that the shipping to Leith carries large numbers of Polish, Russian, German, Italian, Bulgarian and other immigrants from Rotterdam, Antwerp, Hamburg, and Copenhagen en route via Glasgow to America.

The first cases of cerebrospinal meningitis in Leith occurred in the families of dock laborers, and an examination of the laborers themselves frequently demonstrated the meningococcus in their noses. It was demonstrated that in five separate houses in which cases of cerebrospinal meningitis occurred the fathers of the families worked in the hold of the same vessel, which was in dry dock. From the engine room of this vessel meningococci were developed in Petri plates. A ship steward coming in contact with the crew of this vessel developed C.S.M. and died. The railway clerk, whose duty it was to look after the entraining of these trans-

migrants, developed the same malady and died. The daughter of a customs house officer also developed the disease and died. The dock laborers, having very irregular employment, congregate in the grounds about the docks, and not being permitted to smoke, chew tobacco very freely; the expectorations from any infected intermediary thus became very profuse and would in time produce a large probability of infection from the dust of these places, and Dr. Robertson points out that the epidemic was most severe during the dry, windy weather of March and April. One would, however, think this frequency of disease should also be estimated against the frequency of the transmigrant traffic and the source of the transmigrants. In Leith there were: Of 1-roomed houses, 15 infected; of 2-roomed houses, 44 infected; of 3-roomed houses, 11 infected; of 4-roomed houses, 3 infected; of 5-roomed houses, 2 infected; of 6-roomed houses, 1 infected. In these 1 and 2-roomed houses the sanitary conditions were very poor, the food being left upon the table and exposed to infection. So impressed was Dr. Robertson with the possibility of the infection passing by the food from infected persons that the city of Leith destroyed all food thus exposed and replaced it by unexposed food and insisted on proper protection of the food thus supplied. Drs. Fowler and Stuart MacDonald, of Edinburgh, deem the infection to be carried by the food for the following reasons:

1. The cord tension is of longer standing than that of the brain.

2. The abolition of abdominal reflex suggests spinal involvement.

3. The retention of the mental faculties is in many cases characteristic, thus indicating a later involvement of the brain.

4. That no exclusively breast-fed infant has, to their knowledge, been attacked by this disease.

In further evidence of the source of infection being the transmigrants, it is of interest to refer to the death rate in the towns previously quoted, Glasgow, 1 to 845; Leith, 1 to 840; these being the most intensely infected areas. Following these are Edinburgh and Paisley, with one to two thousand and to 2,500 respectively, these towns being of the poorer working people and in the close vicinity of Leith and Glasgow. Greenock and Dundee, with each one to five thousand, while Aberdeen and Perth, towns away from the route of transmigration, had a death-rate of only one to thirty-five thousand.

The method of control followed by Dr. Robertson was as follows: 1st. Remove the patient to the hospital. 2nd. Spray with formaldehyde the rooms of the infected house, the passage-way, courts and side-walks even, pertaining to the house, and as the most important step of all, douch the noses of all contacts with chlorine water every second day until the douching has been car-

ried out three times. This was done by district nurses, who at the same time supplied the contacts with formamint tablets.

In addition to this, as has already been stated, exposed food was replaced by unexposed food.

Of the treatment of C. S. M., in this epidemic, much valuable information has been accumulated by Dr. A. Gardiner Robb, of Belfast. Of the 275 cases coming under his care in the Fever Hospital of Belfast, the death-rate was 72.3 per cent.; of these 69 were treated with hypodermic injections of Colli Wasserman's, Ruppel's, Burroughs and Welleome's antimenigitis serum, with a death-rate of 74 per cent. He then commenced the intrameningeal infection, Flexner's and Jobbling's serum, and in 94 unselected cases had 25 deaths or a mortality of 29.7 per cent. All the cases quoted by Dr. Robb were verified by Prof. Symmes and Dr. Wilson, and by Drs. Houston and Rankin at the laboratories of Queen's College.

Dr. Robb made hypodermic injections of this serum in several cases and in none did he find any marked effect to follow its use. The difference of the action of the Flexner and Jobbling serum when injected into the spinal meninges and hypodermically is of great interest when correlated with the results obtained by Dr. Iver Mackenzie and Dr. Martin in injecting into the meningeal sac the serum of a patient recovering from C. M. S., or even by serum of the patient himself. Drs. Mackenzie and Martin found the result to be 6 deaths in 16 unselected patients, or 37½ per cent. It is regrettable that the series of cases by Drs. Mackenzie and Martin are so limited, for the results so far as they go are very encouraging indeed.

But to return to the Flexner and Jobbling serum, of which a larger series of results are available, and which shows a less mortality. One can scarcely do better than to quote Dr. Robb's summary of the results as they now stand:

Looking back over our experience two points stand out as completely altering the view we must now take of cerebrospinal fever compared with the outlook when the disease first came upon us.

1st. Houston and Rankin's opsonic and agglutination method of diagnosis was an enormous stride, and is most reliable.

2nd. Flexner and Jobbling's serum completely changes the mortality. From my experience in treatment I am satisfied that we have no more definite and specific remedy for any disease, not even excepting anti-diphtheria serum, although the field of usefulness is more restricted.

The instruction which may be gathered from the observations upon this epidemic might be summed up as follows:

1st. That the most dangerous source of infection is found on the line of transmigration of the European immigrants.

2nd. That when the disease becomes established in a city it is most prevalent in small, over-crowded rooms.

3rd. That the disease is of low infectivity.

4th. That the infective organism enters the body probably by two routes, (a) the naso-pharyngeal area, and (b) food and swallowed secretions taken into the gastro-intestinal areas. The actual infection by either of these two sources has not been fully demonstrated.

5th. That the infection is a general systemic one and does not invade by a continuity of tissue.

6th. That the blood has a powerful bactericidal action on the germ of disease and the organism is possessed of a marked autolytic action.

7th. That the cerebrospinal fluid has little or no bactericidal action, and because of the absence of blood serum the cerebrospinal membranes and cavities are the vulnerable areas of attack.

8th. That the human blood serum injected into the meningeal sac greatly retards the progress of the disease and greatly lessens the mortality of the malady. The statistics, however, are yet meagre, and such treatment must be regarded as one to be used only in the absence of the Flexner Jobbling serum.

9th. The Flexner Jobbling serum injected hypodermically does not affect the course of the disease, but injected into the meningeal sac it has a specific action in greatly modifying the course of the disease and very greatly lessens the death rate.

10th. That the agglutination test is after six days of illness a valuable and reliable one.

The prophylactic methods indicated are:

1st. The isolation of those who are ill and the disinfection of their naso-pharyngeal tracts with chlorine water.

2nd. A similar isolation and disinfection of all contacts.

3rd. The copious disinfection with formaldehyde of all rooms and areas frequented by those ill with disease or by contacts.

4th. The destruction of all food exposed to infected persons, whether ill or contacts; all further food provided should be properly protected in infected houses.

5th. The last and by no means least necessary precaution is the thorough and frequent disinfection of all cars carrying European immigrants or cars carrying passengers from infected areas.

In closing I wish to acknowledge with thanks the courtesy of the Department of Statistics in the Office of the Registrar-General of Scotland in placing at my disposal the statistics of the Scotch epidemic and also the courtesy of Dr. A. Gardiner Robb, of Belfast, in sending me the statistics of the epidemic of that city, together with his own statistics of the results following the use of the Flexner Jobbling serum.

MILK EPIDEMICS*

BY J. FLEMING GOODCHILD, M.D., M.R.C.S. (ENG.), B.SC., PUBLIC HEALTH (EDIN.).

THERE is now no question of the fact that numerous epidemics of enteric fever, diphtheria, cholera, sore throat and scarlet fever have occurred in which milk has been the medium of conveyance and multiplication of the specific microbes.

In the case of typhoid fever the organism has gained entrance to the milk either by adulteration of the milk with water containing the bacillus of Eberth or by washing the milk vessels with similarly befouled water, and in a few cases it has been found that the only source of contamination was from a person who had milked the cows with hands soiled with dejecta of patients suffering from typhoid. Another means is the case of the udder of the cow becoming fouled with water containing the typhoid bacillus.

In a large percentage of milk epidemics of diphtheria it has not been possible to trace the source from which the milk derived its infective quality. This, however, is not to be wondered at, for in the first place our knowledge is not yet sufficiently definite to enable us to exclude diphtheria from the class of diseases which are not necessarily dependent on an immediate pre-existing case, and which appear to arrive at times from ordinary insanitary conditions. And in the second place, slight cases of diphtheria are very difficult to trace—the diphtheritic character of a sore throat not always clinically being recognizable by doctors, and in these mild cases a careful bacteriological examination is not always made. Notwithstanding this, we need not hesitate to say from the abundant evidence now existing that diphtheria has often been conveyed through the medium of milk.

In the case of sore throat, certain diseases of the cows themselves, and especially of the teats and udder, have been found to act as a primary cause, but this has really nothing to do with milk as a vehicle for conveyance of infectious diseases.

A good example of an actual case of cholera being conveyed by the medium of milk is that reported by Dr. Simpson: An outbreak of cholera occurred on board the ship "Arden Santha," lying off the port of Calcutta. Of the crew of this ship all those who drank milk brought by a native milkman suffered. This milk vendor was found to have his dairy near a tank into which dejecta from a cholera patient was thrown. He confessed to have

* Read before Academy of Medicine, Oct. 22nd, 1908.

habitually diluted the milk one part in four with water from this tank.

In those epidemics of scarlet fever which have been traced to milk it has been usual to find that the milk was infected through human agency by a previous inadequately isolated case of scarlatina at the farm or dairy. The cows were either milked by a person who was attending on a scarlet fever patient or by one who had the disease in his family, or by one who was himself suffering from scarlet fever in a mild or disguised form, and occasionally the milk appears to have derived its infective quality from being kept in a room in which clothes or refuse matter from the sick had not been disinfected.

There is no evidence of this disease being conveyed by water nor by the air, inasmuch as it does not appear to spread in the neighborhood of fever hospitals, and at present there is little evidence to show that this disease has any definite relation to the soil.

In Britain, even before the year 1881, numbers of scarlet fever milk epidemics occurred and were described by Ballard, Buchanan, Jacobs, Robertson, Darbishire, and many others. In the transactions of the International Medical Congress, 1881, Mr. Ernest Hart tabulated these, giving particulars of 50 epidemics of enteric, 15 of scarlet fever, and 6 of diphtheria, including in all some 4,800 cases of infectious disease all traced to an infective or supposed infective quality of the milk, and since that date numerous other epidemics have occurred in which milk has been the vehicle of conveyance of the infection.

In the United Kingdom these milk epidemics are now so easily recognized, since the classical investigations of Ballard and Buchanan, that there is hardly a health officer in the country who has not had the opportunity, even during a comparatively few years of office, to himself investigate and become acquainted with such epidemics. As evidence of the truth of this statement, let me cite my own experience during a year's work, 1900-1901, as assistant to Dr. A. K. Chalmers, M. O. H., Glasgow. During that year there were two milk epidemics of scarlet fever that came under the notice of my chief and I personally, along with another assistant, Dr. Knight, now M. O. H., Scarborough, was instrumental in working out and finding the source of infection in one of these. In this epidemic we found in the Gorbals district of Glasgow quite a large number of scarlet fever cases occurring almost simultaneously in different and distant households, these, in most instances, having no intercommunication with one another, either by school, church or visitors. These sporadic cases appearing with no definite source for infection from other scarlet cases led us to think at once that the milk supply was the vehicle of the con-

tagion. In this particular instance we found (as nearly as I can remember) that upwards of 50 cases of scarlet fever had developed within two days, and in almost every one of the first cases we traced the milk supply through several different city milk vendors back to one common source of supply—a dairy farm in Lanarkshire, where a family had suffered from scarlet fever and one of its members had continued to work in the dairy, while suffering from a mild type of the disease.

Another good example of a scarlet fever epidemic caused by a contaminated milk supply, is that reported by Dr. Robertson, of Keswick. In this instance the contagion had found access to the milk of a dairy closely adjoining a house where scarlet fever had existed for several weeks. The cows were milked every night and morning into open pails, the milk carried across an open yard past the affected household. The children who first contracted scarlet fever in the locality played about the yard while in a state of desquamation. Very shortly afterwards a general epidemic of scarlet fever broke out in the town, and in two days upwards of 30 to 40 families became sufferers from the disease. All those that contracted the disease received their milk supply from this particular dairy. Some members of every family supplied became infected almost at the same time, practically all the same day, with either a scarlatinal sore throat or scarlet fever. Other families supplied from a different source escaped the disease. A lodger with one of the unfortunate families took the raw milk for supper and contracted the disease. His landlady drank boiled milk from the same sample, and she escaped the disease.

We must here observe the large number of scarlet fever cases occurring on the same day. The inference from this fact is that a day or two previous to this outbreak the children, while playing in the yard, had in some way conveyed the infection to the milk in their neighborhood.

In 1885 an epidemic of scarlet fever occurred in Postock, Germany, apparently from milk infection. A very striking increase in scarlet fever occurred in June, in which month 36 cases developed. It was discovered that the families (with two or three exceptions) were supplied with milk from a farm in the village of Gehlsdorf, where six cases of scarlet fever and a number of cases of sore throat existed among the farmers' families and employees. Some of those who were taken ill had milked the cows and had handled the milk. According to the investigation of the Postock physicians, eight of the thirty-six cases could, with certainty, be attributed to infection from the milk. As indicating the presence of the infecting agent in the milk, it was noted that those who drank boiled milk escaped. This was the case in two

children, two and four years of age, who remained free, although other children in the same household who drank raw milk contracted the disease.

The Medical Record, of March 28, 1896, contains Freeman's paper on the transmission of various diseases through infected milk. In twenty-six epidemics of scarlet fever in England traceable to milk, he showed that fifteen of these were found to be due to the disease in man.

In Plainfield, New Jersey, an epidemic was traced to a farm hand who had a mild attack of scarlet fever and who handled the milk while ill.

More recently, an outbreak of scarlet fever occurred among thirty-five students of Pardue University, Lafayette, Ind. The thirty-five students took their meals at eleven different boarding-houses, all of which were supplied with milk by the same dairyman. Also five private families supplied with the same milk had one or more cases of the fever in each of their households. The infection was attributed to winter clothing, which had just been put on and which had been laid away the previous winter, when the "dairyman's family ran through a course of scarlet fever."

From the now extensive literature on the subject, we may conclude that scarlet fever may be conveyed through a contaminated milk supply. The matter is not proven with scientific accuracy, or, one might say, beyond the peradventure of a doubt, but the chain of circumstantial evidence is so strong as to render this conclusion irresistible.

The view advanced by Dr. Klein, and some others, that the cows themselves sometimes suffer from scarlatina is not generally credited.

Hall, in his article in the *New York Medical Record*, Nov. 11th, 1899, in reviewing the subject of milk infection, makes the following interesting statement: "While scarlet fever occurs in epidemics in those countries where cows' milk forms a staple article of food, especially among children, it does not occur in countries where cows milk is not used as a food or where children are raised on mothers' milk only."

In Japan, cows' milk is not used and there scarlet fever is practically an unknown disease. In India, cows' milk is used, but children are kept at the maternal breast until they are three or four years of age. Scarlet fever is a rare disease in India and seldom occurs in epidemic form.

In January, 1907, an epidemic of scarlet fever and diphtheria swept over the city of Chicago. Altogether in one month more than 10,000 cases of infectious disease were reported, including 4,000 cases of scarlet fever and upwards of 1,000 of diphtheria.

There were over 300 deaths. It was proved that the outbreak was due to infected milk which came from two small places in Wisconsin, where there were cases of diphtheria and scarlet fever, namely, Basset Station and Genoa Junction. The former is a dairy-farming district where for months scarlet fever had been prevalent, yet milk was regularly shipped without warning of any kind to Evanston and Chicago.

In connection with this Chicago epidemic, it is worth noticing that in the bottling house of one of the largest dairy companies in the world, a man was found working visibly suffering from scarlet fever, the characteristic rash being present in the skin. Milk was also being received by the same company from two farms in which there were cases of scarlet fever.

Similar reported serious milk epidemics of scarlet fever occurred in Buffalo, 1899, London, Eng., 1901, and in Salem, Mass., in 1901.

As to diphtheria the medical literature of recent years contains many reports of milk-borne outbreaks. Mention of two or three of these will be sufficient for our present purpose.

In 1893, a small epidemic occurred in Lund, Sweden, when eight persons in different families became sick with diphtheria. These cases were traced to the use of milk from a farm near Lund; at this farmhouse two of the inmates were found to be infected with diphtheria.

Quite an extended epidemic occurred in 1886, in Frimly, England; in the course of a few days 70 cases of diphtheria occurred distributed in more than 30 families, 15 cases being fatal. All the sick had received milk from the same dairy. Not one case of diphtheria occurred during this time among consumers using milk from other dairies.

Another report is that from Ashtabula, Ohio, where 100 persons became affected with diphtheria in December, 1894. The houses in which the disease occurred were widely separated, but milk was taken at all of them from the same dairyman. On the farm of this dairyman a workman had a very sore throat, probably diphtheritic. This person had assisted in the work of the dairy while suffering acutely from sore throat. Of 44 households investigated, it was found that 32 had received milk directly from this sick person, the other 12 had received milk from the same dairy but it had been delivered by another man.

Dr. N. Flindt has given a detailed account of a diphtheria epidemic borne by milk from a co-operative dairy at Holbeak, in which 51 patients were infected in July, 16 cases the following month, and 6 more in September. This case is remarkable, in that the milk appears to have been contaminated for quite a long period.

It is certainly very difficult to prove the presence of diphtheria bacilli in market milk, because even if the milk has been the cause of the epidemic they are present in it only in very small quantity and usually but for a limited time. To the present time the diphtheria bacillus has only rarely been isolated from market milk samples.

In the case of typhoid fever, Dr. Caroe has reported 90 large and small typhoid epidemics which occurred immediately outside Copenhagen during the period 1878-96, and which were mostly due to infection by milk. In the city itself, in the year 1900, three definite typhoid milk epidemics occurred.

During the present year, early in the spring, an epidemic of typhoid took place in Paisley, Scotland, and it has been proven bacteriologically that upwards of 100 cases could be traced to infected milk. Many similar typhoid milk epidemics, both in Europe and America, are now on record.

Last year, at Oshawa, Ont., Dr. McCrea, health officer there, reported several cases of typhoid caused directly by milk contamination.

It is unnecessary to go farther in this discussion of typhoid milk epidemics, for it is a well-known fact that impure drinking water is probably the most common carrier of typhoid contagion to man, and it is self-evident that milk which is favorable to the growth of typhoid bacilli may be infected from the water. Typhoid bacilli may be blown about by the dust, carried on the boots of persons who walk over infected surfaces, and they may also be carried by flies, as was abundantly proven during the Spanish-American and the South African wars. By all of these means the milk may become infected with the typhoid bacilli.

In regard to tuberculosis, the bacilli may enter milk not only from tubercular cows and infected stables, but also without doubt from tuberculous people. The danger, however, is lessened in the case of the tubercular organism by the fact that these bacilli do not increase or multiply in milk. The latter peculiarity, as well as the fact that but few tubercular milk epidemics have been reported, puts tuberculosis rather out of the category of diseases that may be spread in epidemic form by means of the medium milk. But so prevalent is tubercular disease in man and animals, so generally diffused and numerous in the community are its sources, and so closely allied with these sources is the medium milk, which will preserve and convey its causal agent, that we can not advisedly dismiss from further discussion in this paper a disease which is so often milk-borne.

It has long been known that tuberculosis can be acquired by ingestion as well as by inhalation and inoculation, but the part

played by cows' milk in the spread of the disease has only recently begun to receive serious attention. That many persons, old and young, have been infected with tubercle bacilli through the milk of cows suffering from the disease, is one of the best attested facts in modern pathology, but the extent to which children are the victims of this infection is only now being recognized.

Prof. Von Behring says that milk-fed to infants is the chief cause of tubercular infection. Though this teacher probably is in error in making such a statement, still we are safe in saying that most of the world's leading pathologists agree that it is one of the important sources of infection.

The British Royal Commission, appointed to inquire into "The effect of food derived from tuberculous animals upon human health," consisting of some of the most eminent physicians and physiologists in England, after careful examination of many experts and some very extensive and thorough experimenting, unanimously reported in 1895 that they believed that "an appreciable part of the tuberculosis that affects man is obtained through his food," and that "no doubt the largest part of the tuberculosis which man obtains through his food is by means of milk containing tuberculous matter."

Another British Royal Commission, appointed to inquire into the subject of "Controlling the danger to man through the use as food of the meat and milk of tuberculous animals," reported in 1898 its unanimous agreement with the findings of the former commission quoted above.

And the Royal Commission of 1901, appointed to enquire into the relation of human and animal tuberculosis, demonstrated conclusively that bovine tuberculosis can be transmitted to human beings, that there is no essential difference in the tuberculosis which affects human beings and that which affects bovine and other animals.

Dr. Oliver, of Paris, records an instance of 13 school girls belonging to a Paris boarding school becoming infected. Six of the girls died. It was found that in several cases the bowels were first attacked, and the outbreak was traced to the milk supply which came from a cow with a badly infected udder. Dr. Jacobi quotes a case recorded by Johne, an eminent veterinary anatomist, of the death from tuberculosis of a little girl two and one-half years old. She had been fed upon the milk of a cow which her father, a farmer, had specially selected on account of the animal's splendid appearance. Later it was found that the cow was tubercular, but not until it was too late, the child having died.

We know positively that healthy cows fed upon food which contains tuberculous matter of human origin become infected with

the disease, and it is reasonable to suppose in the absence of conclusive proof to the contrary that human beings can be similarly infected by the ingestion of bovine tuberculous matter.

Of this we now have positive evidence. A little daughter of Gosse, a physician of Geneva, was infected by drinking the milk of a cow on the physician's own farm. The child died. Gosse conducted a post mortem and conclusively demonstrated that the cause of infection was the milk upon which the child had been fed and which proved to have come from a cow with tuberculosis of the udder.

Dr. George M. Kober tabulates 86 cases of tuberculosis, showing the transmission of bovine tuberculosis to human beings through milk. Added to these specific cases, it is now a well-known fact that the bovine tubercle bacillus has been found in an active state in the intestines of young infants, so that the chain of evidence is almost as near complete as anything in scientific medicine can be.

Even Koch now admits the presence of bovine tubercle bacilli affecting the mesenteric glands of children, and I believe the recent International Congress on Tuberculosis, at Washington, sustains a 95 per cent. testimony and belief that the bovine tubercle not only attacks intestinal glands, peritoneum, meninges and bone, but in addition this bovine bacillus finds its way to the lungs to produce phthisis pulmonalis, all of which infection may be definitely traced to the ingestion of milk bearing the germs of bovine tubercle.

Dr. John Ferguson, of Toronto, has recently quoted the report of Martin, of Copenhagen. Dr. Martin found some 123 cases of tubercular disease among 511 children of an institution which received its milk supply from a herd of tubercular cows.

To return from this digression, let me quote Power, of London, who sums up the points of note in milk epidemics and shows the outbreaks to have the following characteristics:

1. Outbreak sudden and cessation also abrupt, if allowance is made for the late cases, which have probably become infected from the earlier cases and not by the milk.

2. A large proportion of the attacks are simultaneous, the outbreak also reaches its maximum too rapidly to admit the possibility of infection from a first case.

3. Two or more persons in the same house are taken ill at the same time. This may occur apart from milk infection, but it is very exceptional as regards the first invasion of the household.

4. A very large proportion of the households attacked will be found to have a common milk supply, which, however, may not be distributed by the same retailer.

5. If the households are classified according to the amount of milk consumed daily, it will be found that the attacks are more numerous among those consuming a larger supply. The wealthier consumers generally suffer more than the poorer.

6. Attacks are rare among persons who drink little milk or only take it in tea or coffee or always have it boiled.

7. In scarlet fever milk epidemics the type of the disease is usually mild and attended with low mortality.

8. Infected cream or milk kept over night has been found to cause more virulent cases of the disease than milk consumed in the fresh state.

THE EVOLUTION OF SURGICAL TECHNIQUE DURING THE LAST HALF CENTURY

BY H. A. BOYCE,

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Mr. President, Members of the Canadian Hospital Association,
Ladies and Gentlemen—

THERE are three discoveries in the history of surgery which are of paramount importance. One was when Ambroise Paré substituted the ligature for the red hot knife and cautery; a second was when Morton demonstrated that human beings could be operated on painlessly under the influence of anesthetics, and the third and last, when Lister, founding upon the researches of Pasteur introduced the antiseptic principle in wound treatment.

The discovery of ether and chloroform brought with it great changes. Patients anxious for relief from pain submitted more readily to operation now than formerly. New operations were devised and carried into effect. As the field of surgery widened the disappointments to the surgeon increased. Nearly every wound became infected; as a result the patient either succumbed or after months of pain finally recovered. It is impossible to find words adequate to describe the condition of the patients in the surgical wards of hospitals prior to the days of antisepsis. In one corner of the ward there was a patient whose teeth were chattering from the chills of pyemia; near by was the bright red shining face of erysipelas; a little farther over was a patient in the death agony from tetanus; still farther down was a patient suffering from moist gangrene. Pus was streaming from every wound. The very air was alive with pathogenic germs. The stench of the wards was so bad that many a student fainted on entering them. Healing by first intention was so uncommon that, when it did occur, it was attributed to some freak of nature.

Many surgeons still clung to the idea that balsams, lotions, etc., were necessary for the proper healing of wounds. However, Syme of Edinburgh, recognized the fact that union of the tissues depended on some living power in them. This surgeon recommended the tying of large arteries with long, well waxed silk ligatures. The ends of the ligature were left long for the proper drainage of the wound. The skin was sutured with silver wire as recommended by Sims in 1857. As soon as suppuration began the lint which had been placed over the wound was soaked off. Condy's fluid was used to irrigate the wound. Union never occurred till the silk ligatures had sloughed off.

Sir James Y. Simpson, thinking these long silk ligatures were the cause of all the infections, recommended the compression of arteries by needles. By this method immediate union occasionally occurred.

This was the state of the Glasgow Infirmary when Lord Lister was appointed surgeon in 1860. Prior to his coming to Glasgow he had begun investigation into the nature and cause of suppuration of wounds. For some time he had taught that this condition was caused by decomposition of blood and serum brought about by the action of minute particles suspended in the air.

About this time the researches of Pasteur on fermentation and putrefaction were published. In these he demonstrated that this was not due to oxygen or gaseous constituent, but that air owed this property of producing putrefaction to minute particles suspended in it. Pasteur further stated that normal healthy tissues are devoid of bacteria. It is upon this postulate that the science of bacteriology is based. It is to this assertion we owe the greatest advance in surgical technique the world has ever known. It has led to the saving of multitudes of lives; upon it Lord Lister based his antiseptic treatment. From this has developed the antiseptic era. In fact the whole modern treatment of wounds has been determined and evolved from the assumption that normal tissues are free from germs, and hence, if germs from without are prevented from entering the wound it will heal by first intention.

For some time Lister had advocated the frequent washing of the hands of the surgeon and his assistants and also the frequent dressing of suppurating wounds. In the infirmary, he continued this work with greater zeal than ever. Stimulated by the facts gleaned from the lately published researches of Pasteur he continued his work on antiseptics. The results of his further investigations are best told in his own words: "In the course of an extended investigation into the nature of inflammation and the healthy and morbid conditions of the blood in relation to it, I arrived several years ago at the conclusion that the essential cause of suppuration in wounds is decomposition brought about by the atmosphere upon blood or serum retained within them; and in the case of contused wounds upon portions of tissue destroyed by the violence of injury. To prevent the occurrence of suppuration with all its attendant risks was an object manifestly desirable, but till lately apparently unattainable, since it seemed hopeless to exclude the oxygen of the air, which was universally regarded as the agent by which putrefaction was effected. But when it had been shown by the researches of Pasteur that the septic properties of the atmosphere depended not on oxygen or any gaseous constituent but on the minute organisms suspended

in it which owed their energy to their vitality, it occurred to me that decomposition in the injured part might be avoided without excluding the air, by applying as a dressing some material capable of destroying the life of the floating particles."

What was to be the material? How was it to be applied? The great master had heard that carbolic acid had been used to disinfect the sewage used on the lands at Carlisle. So successful was this substance in its work that it destroyed the odor and prevented the cattle from becoming infected by destroying the entozoa. At first this substance was supplied in a very crude form. This crude drug, as Lister taught, was insoluble in water.

His first practical attempt at antiseptis consisted in withdrawing a compound fracture from the action of these germs. He recognized that without cutting off the air supply he was able to transform the compound fracture into a centre similar to that of a simple fracture. To free the wound from microbes was sufficient. Lister removed those that collected in it and prevented others from entering the wound subsequently. Thus he was able to withdraw it from those infections of wounds which had led to such a large mortality. The use of antiseptic materials, that is those substances which destroy germs, became the foundation of his method. For this purpose he used carbolic acid.

In the case of the compound fracture spoken of above, Lister used a piece of calico soaked in carbolic acid to touch the wound and its interstices. Two layers of lint were laid over the wound. To keep the parts germ-free the lint was kept moist by occasionally painting it with carbolic acid.

He also observed at this time that the dead tissues and blood clots were replaced by healthy tissue. It was this fact that afterwards suggested the idea of the catgut ligatures.

The next step in the pathway of antiseptis was the use of carbolic oil in rendering aseptic the skin over a psoas abscess. A piece of lint saturated in carbolic oil was placed over the abscess. One edge was lifted up, the skin incised, and the pus evacuated. Then this mixture of pus and carbolic oil was used as a dressing over the abscess. In a short time only a few drops of serum exuded from the cavity. There was no more pus with which to mix the acid so Lister conceived the idea of making a putty. For this purpose he mixed carbolic oil and whiting in a mortar. This putty was spread on a piece of calico and applied over the wound. Over this was placed a piece of block tin held in position by adhesive straps.

The use of this putty was attended with so many practical inconveniences that Lister substituted a protective dressing, consisting of a mixture of one part carbolic acid in four of shellac,

spread on a piece of calico and painted over with a solution of India rubber in benzine.

Up to this time Lister had used lint to drain abscesses, etc. One day on removing a piece of this substance from an axillary abscess there was such a free discharge of pus that he thought the lint obstructed the drainage. A piece of rubber tubing was taken from a Richardson's spray producer; after cutting holes along the tube it was inserted into the wound. The next morning he found the cavity had drained so well that there were only a few drops of serum. Thus the drainage tube was introduced to surgery.

When carbolic acid in its purer form was supplied the great master found it was soluble in about twenty parts of water. Having applied this solution to a putrid sore next day he found that the odor was gone; and hence he decided to use this weaker solution to cleanse the hands, the skin around the wound, as well as for the disinfecting of instruments. He did this because he knew that antiseptics not only destroyed germs but also injured the cells of the tissues.

Prior to this time waxed silk ligatures had been used to ligate the larger arteries, while the smaller ones were twisted. Not one of the wounds in which these ligatures were used healed till they had sloughed away.

On December 12th, 1867, Lister ligated the carotid of a horse with a silk ligature which had been soaked for some time in carbolic solution. So successful was this operation that he felt justified when the opportunity presented itself, some six weeks later, to tie the external iliac artery of a woman for aneurism of the common femoral. So successful was this attempt that the patient left the hospital in six weeks. In about one year afterwards this patient died from rupture of an aortic aneurism. He found on examining his work that enclosed in a thin capsule of tissue there were a few drops of pus. Not considering this sufficiently satisfactory and safe to continue its use he set to work to find an absorbable ligature.

In 1868 he took a few strands of the peritoneum from the intestines of an ox, also some fine catgut, and ligated the carotid of a calf. One month subsequently he examined his work and found the catgut and other tissues had been absorbed, and in its place normal tissue had developed, thus strengthening the arteries. Thus absorbable ligatures came into use.

In some places instead of non-absorbent dressings they were using oakum, an absorbent dressing. It was the use of this dressing that suggested to the great teacher the employment of gauze in the practice of surgery.

The material selected by him, and still used all over the world, either impregnated with some antiseptic material or ster-

ilized by heat, was "book muslin." At first this was charged with resin, paraffin and carbolic acid.

In the early '80's Koch had drawn attention to the value of bichloride of mercury as a germicide.

After experimenting with bichloride, Lister found that gauze impregnated with this substance was better than carbolic gauze, since the latter soon lost its carbolic and thus was useless while the former retained its antiseptic properties because bichloride was not volatile. The great master next used sal alembroth gauze. But this proved too irritating to wounds, so he next used gauze impregnated with the double cyanide of mercury with zinc. This dressing proved so satisfactory that it has continued to be used up to the present time.

The results of Lister's work during this time are best described by Sir Hector Cameron in the following words: "Wounds were found to heal without suppuration or constitutional disturbances; compound fractures and dislocations were robbed of their former dangers which surrounded them; large chronic abscesses connected with bone diseases proved no longer to be incurable even when occurring in the adult; arterial trunks were ligatured in their continuity without fear of secondary hemorrhage or other mishap; joints opened whether by accident or the surgeon's knife healed without a disquieting symptom; ununited fractures were treated boldly by removing the ends of the fragments in open wounds; incursions were made with success into departments of practice which up to that date were looked upon as forbidden grounds."

Thus the technique of surgery was established on a sound scientific basis. It had evolved from a state of empiricism to that of well grounded truth. The uncertainty which enshrouded surgery prior to Lister's time is well expressed by Ambroise Paré's statement, "I dressed him, God healed him."

In the year 1888 Robert Koch announced and proved by indisputable evidence that the germs of the air were mainly innocuous. After thoroughly satisfying himself as to the correctness of this statement Lister abandoned the antiseptic spray.

For some years disciples of Lister had been using the antiseptic principles in the treatment of wounds. Many of these carried this treatment too far. Some poured whole kettles full of carbolic solution over wounds, thinking if a little killed some germs a quantity would kill more. The excessive use of antiseptics in many cases was followed by toxic effects. As a consequence they gradually grew in disfavor. As a substitute for them heat was used to sterilize instruments and dressings. Thus the antiseptic era was ushered in by Lister himself, for he was the first to use a dressing sterilized by heat.

Notwithstanding the mighty upheaval made in surgery by the

dawn of antiseptis it was not to rest on its achievements. Progress was its watchword.

By this method the field of operation, surgeons' hands, instruments, dressings, etc., are disinfected by mechanical washing, scrubbing and by antiseptic solutions and sterilization by heat. The methods of procedure are too well known to every one engaged in this work for me to occupy valuable time detailing them. Under the conscientious practice of the aseptic method the skull and abdomen are opened. Even that delicate structure, the heart, has been operated on with success, thus saving scores of lives from what would prove inevitable death. The success of these operations are all the result of a careful operative technique.

Thus surgery has passed from the night of infection and empiricism to the dawn of antiseptis and certainty, from antiseptis with its limited field of operation to the glorious noon-day of "asepsis" with its broad operative field.

SURGICAL TUBERCULOSIS*

BY E. M. VON EBERTS, M.D., M.R.C.S. (ENG.),

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I WOULD preface my remarks upon those clinical forms of tuberculosis which are included in the category of surgical affections by expressing my thanks to the Executive of the Canadian Hospital Association for their courtesy in extending to me an invitation to address this meeting.

During the past few years a vast amount of thought and energy has been expended by governments, federal, provincial and municipal; by charity organizations; by church societies and district visitors; by hospital authorities, both lay and professional, and by bacteriologists of note, in the perfection of methods for the detection and care of those suffering from pulmonary tuberculosis and for the protection of the community at large. As the impelling force in this vast movement had its origin in the recognition of the transmissibility of this disease, I have been impressed with the scant attention generally accorded tuberculous infections other than pulmonary, viewed in the light of their undoubtedly infectious nature.

The treatment of pulmonary disease depends for its success primarily upon the carrying out of certain hygienic and dietetic measures, and, owing to the vivid illumination of this phase of tuberculosis, the results achieved have probably been better on the whole than those obtained in the treatment of such surgical infections as have not been subjected to radical operative measures. I cannot help thinking that this lesser success is a direct result of the failure to apply to the treatment of surgical infections the regimen prescribed for pulmonary cases—rest, forced feeding and outside air.

As a starting-point let us review the ward history of the average case of tuberculous hip-joint disease complicated with sinus formation. As soon as possible after admission to the general surgical ward, that is, as soon as the routine connected with acute operative cases and the exactions of emergencies permit, the individual is skiagraphed, and the necessary fixation or extension apparatus ordered by the attending surgeon; dressing of the sinus is carried out, and the diet prescribed. Then follows an indefinite period of unavoidable delay while the apparatus is being selected or made, during which time the patient lies in the general ward and partakes with his fellows of the best air which

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the location and season or the ventilating equipment provides—air which is doubtless of a standard of purity sufficiently sustaining to the average individual not suffering from tuberculosis. If it be during the cold weather, the patient is allowed to remain night and day in the public ward. At other times orders are given for him to be placed on the verandah during the day. To what extent are these orders carried out? Daily dressings are necessary, but, as we all know, in large general wards there is no fixed period at which this function is carried out, especially the dressing of chronic cases. Frequently the residue of daylight is too small to warrant the patient's removal to the gallery that day. In short, instead of the patient being brought in for dressing he waits in for dressing. During the winter months, owing to the lack of proper protection he objects to remaining out all day—probably the solitary occupant of the verandah, and the fresh-air order of the chief or house-surgeon is not infrequently waived in the face of these remonstrances. On the other hand, if the order is enforced, the nurse finds the exposure a hardship, especially where a two-hour temperature has to be taken, and the practice is no doubt occasionally responsible for minor ailments among the nursing staff—an additional influence tending to keep the patient indoors.

Again, if the discharge from the sinus or sinuses is profuse and curetting is necessary, for which an anesthetic is administered, there is a temporary withdrawal of the normal food supply, and for some days, while in a lowered state of resistance, the patient is confined strictly to the ward.

The appetite gradually dwindles in spite of an extensive list of extras upon his diet card. Still later he becomes anemic and a chalybeate is prescribed. Interest in his own progress perceptibly wanes until the chief joy of this "chronic" is the advent of an "acute" and only an ambulance case can rouse him to an elbow posture—a state of mind which reflects very truly his depleted physical condition. In this way the winter months are dragged through—with improvement, it is true, but an improvement which does not balance with our actual knowledge of how such cases should be treated nor our skill in treating them.

The patient whose history we have reviewed is much in the position of one of the impounded herd of Tolstoi's parable, in which a multiplicity of ukases enjoining the sowing of grass seed, the building of protecting sheds, the washing of udders and, finally, daily grooming, proved ineffectual in staying the gradual decrease in the milk supply, as the cardinal essential—the leveling of the palings—was withheld. What these animals required was fresh browse; what our patients require is outside air.

This element, air, is concerned in all forms of ventilation; it is to be found of a standard of purity suitable for therapeutic

purposes, however, only on the outside of the four walls of the hospital ward. There it is "outside air," not to be enticed through the ventilators of double windows or forced through ventilating shafts. In other words "outside air" can not be imported.

How can we best eliminate in the conduct of cases of this kind the odd ends which tend to invite failure or at least a postponement of recovery? I am of the opinion that the first step in this direction must be the provision of special and separate accommodation—an open pavilion or verandah equipped with canvas shields for protection against unsuitable weather conditions, where patients will be constantly in the fresh air. During the colder months dressings should be carried out in a heated apartment adjoining. The nurses in charge of the ward should be suitably clad for the season. An orderly should be always promptly available for the shifting of beds.

At night the patients should be moved into a comfortably heated ward, as it is probably Utopian to hope that the average individual may be induced to spend a winter's night in the open air, although I am personally convinced that with a proper equipment only comfort and an exalted feeling of well-being result from this procedure. As a matter of fact, to carry out open air treatment during the day in cold weather requires such a special equipment—that is, an impervious mattress (preferably of felt), flannelette blankets instead of sheets, a Jaeger or four-point blanket, an eiderdown duvet and occasionally a hot-water bottle. The patient should wear flannelette pyjamas, warm socks, a warm bed-jacket and a light woollen tuque. It is very essential that the coverings should be light. A weight of bed-clothing is most irksome and detracts from the benefits of the treatment. If protection against wind is provided, the equipment described is ample for winter weather where the temperature is 10 deg. F. or higher. Too much stress cannot be laid upon the quality of the mattress. The patient can heat only one surface, and with most economy of heat energy that which lies beneath. Light coverings provide for proper body ventilation. The bed-clothing should be secured by means of blanket safety pins along one side and across the foot of the bed.

Under the plan proposed the serving of the mid-day meal during the colder months would be the chief obstacle. At this season breakfast and the evening meal could be served indoors, and with sufficient assistance I am satisfied that the serving of the mid-day meal would not present insuperable difficulties.

Every precaution should be taken in the disposal of infected material. How frequently one sees tuberculous material, such as caseating glands, joint curettings, or dressings from sinus cases, treated as ordinary infected material and disposed of in

the ordinary dressing tins, instead of being destroyed in the furnace. These casual methods show as little regard for the community, inside and outside, as the disposal of sputum by way of the sink.

In the regulation of the diet of this class of patient we are far in the wake of the physician. It is not enough to prescribe a liberal diet; it is necessary to see that the patient gets what is prescribed, that it is served in a palatable form, and finally that it is consumed. I am confident that a liberal Providence, through the medium of a generous public, leaves little to be desired in the quality of the raw foodstuffs supplied to our hospitals, but the source of cooks is a moot question, and I have often felt on inspecting the product of his or her art, as served in the hospital ward, that the patients partaking thereof were trusting largely to the uncovenanted mercies. There are undoubtedly good cooks abroad in the land, but unfortunately Hospital Boards of Management are apt to hold that a high-priced cook is out of place in a charitable institution. Tuberculous subjects, above all others, require not only food in abundance but food which is properly cooked and served in an attractive form. These patients, in addition to three full meals a day, should be given at least half a pint of milk between breakfast and the mid-day meal, at three o'clock in the afternoon, and before lights out. Raw eggs may be added. Such an extensive diet can be accepted only by those who are constantly in the outside air.

In order to appreciate the effect of fresh air and liberal feeding, the patients should be weighed once a week, and, as suggested by Doctor Joseph Pratt, of Boston, improvements in weight should be posted at regular intervals as an incentive to those who cavil at the forced feeding and outdoor regimen.

While apart from operative measures the essentials in the conduct of these cases are rest, liberal feeding and fresh air, we have in tuberculin a valuable adjuvant. My personal experience has been chiefly with the use of that form known as Tuberculin Rest, or the T. R. of commerce, administered in doses varying from 1-3000 to 1-800 of a milligramme, according to the body weight, at intervals of ten days to two weeks—the treatment extending over a period of six months to one year.

Where sinuses exist there is always a superadded pyogenic infection, which can best be combated by the administration of an homologous bacterial vaccine.

With the expansion of a knowledge of the use of tuberculin there has been a marked diminution in the number of localized surgical infections subjected to operative interference. Until comparatively recently extensive resection of tuberculous glands was practised as a routine method. At the present time a large proportion of these cases are selected for treatment by more con-

servative methods and with decidedly better results. In the treatment of joint infections the resections of yore have been largely replaced by the employment of fixation apparatus, the use of Bier's bandage, puncture followed by the application of Klapp's suction cups, and the routine administration of tuberculin. Tuberculous peritonitis is now less frequently treated by incision and drainage; rest in the open air and a liberal diet offering in the majority of these cases a less unfavorable outlook.

In the treatment of surgical tuberculosis it is only a question of time when our hospitals will have to grapple with the family side of the problem. Bread-winners will not progress favorably if their minds are not relieved as to the maintenance of those dependent upon them. Mothers also must know that their children are not being neglected.

When discharged from the ward all patients, whether receiving tuberculin or not, should be instructed to report regularly at the out-patient department, and the names of those failing to do so should be referred to the district nurse for investigation. Cases of localized tuberculosis should not be allowed to return to the conditions under which the disease was contracted without an effort being made to discover and eliminate the source of infection or the predisposing factor, whether the latter be an undesirable occupation, insanitary housing, or a defective food supply. I would go a step further in expressing the opinion that all cases of localized tuberculosis should be reported. If such a process were legally enforced, these cases would be brought immediately under the eye of the civic authorities and the Tuberculosis League, and I am confident that in many instances evidence of infection in other members of the household would be detected. It is only by such careful supervision that relapses or metastases may be recognized early, that permanent cures may be effected, and that that millennium may be looked forward to when tuberculosis shall have become a comparatively rare affection.

There is nothing new in what I have put before you. The various ideas here assembled have all passed through the crucible of criticism and emerged as truths which may now be safely engrafted upon the Tree of the Art of Healing. The method of treatment outlined would, I believe, lead to a very material curtailment of the average time of retention of these patients—an achievement most urgently to be desired and yielding a three-fold blessing: a lessening of the tale of suffering; an earlier resumption of wage-earning, education or domestic duties; and a broadening of an institution's scope of usefulness.

TUBERCULOSIS OF THE HIP JOINT.*

W. E. GALLIE, M.B.,

Associate Surgeon Hospital for Sick Children, Toronto.

THE specimen which I am presenting is one of tuberculosis of the hip joint. It is of particular interest, because it is, I believe, the only fresh specimen (of its kind) in the Pathological Museum of the University of Toronto; and because it illustrates beautifully many of the phases of the destructive and defensive processes accompanying the disease.

The case was that of a boy of ten, who had been under treatment for hip disease for about six months. The patient's general health rapidly failed, the local symptoms increased in acuteness, abscess developed, and he died of tuberculous meningitis just one year after the appearance of the first symptoms.

In describing the pathology of a tuberculous joint, one must regulate his remarks according to the anatomy of the part. We have, therefore, to deal with the bones, the cartilages, the synovial membrane, the ligaments and the surrounding tissues.

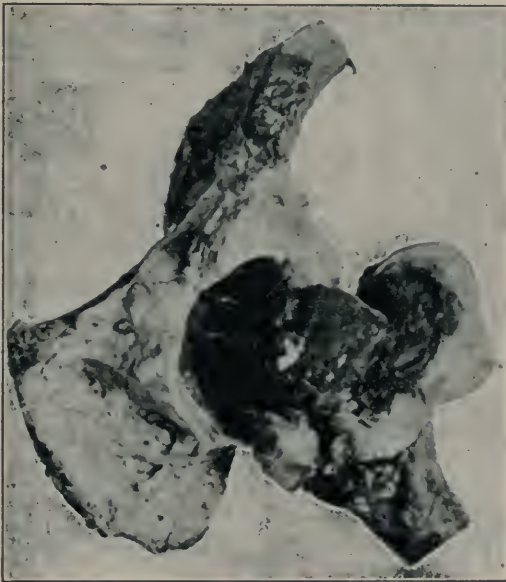
When the disease commences in the bone, the region adjacent to an epiphyseal cartilage is the usual resting-place of the bacillus. This is explained by the theory that this particular region, being engaged in rapid proliferation, is comparatively low in resisting power to micro-organisms. Another suggestion is that, owing to the large blood supply to this locality and to the disposition of the blood in the sinuses instead of small tubules, the bacilli are more liable to be deposited here than elsewhere. At any rate, the organisms seem to have a strong preference for the cancellous bone tissue of the epiphyseal region between the ages of three and fourteen years.

The subsequent history you are familiar with, and it is very well illustrated in the gross in the specimen. The bacillus being deposited, immediately sets up an inflammatory reaction; epithelioid cells gather about; giant cells develop; leucocytes close in on the outside, and a tubercle is formed. The constant irritation of the bacilli results in the formation of granulation tissue; the osseous trabeculae at first atrophy, and later disappear, thus allowing neighboring foci to coalesce, and we have established what is commonly known as a "rarifying osteitis." When attacked with a curette, this tissue is much softer than normal, as is seen by reference to this specimen. You will notice that a probe can with ease be passed into the head of the femur, indicating a marked softening of the normal structure. The centres of the foci finally undergo

*Read before the Section in Pathology, Academy of Medicine, Toronto.

fatty degeneration and necrosis, and the whole area of cancellous bone is converted into a pulpy mass of granulation tissue and caseous debris.

The effect of all this inflammation in the region of the epiphyseal cartilage is very remarkable. At first, when the cartilage is simply the seat of a chronic inflammation, due to the proximity of the irritant, the result is an increased rapidity of growth; and it is an actual fact that, in knee joint disease in particular, the affected leg, after the first year, is from one-half to one inch longer than the other. Later on, the cartilage itself may be involved in



Photograph of os innominatum and upper extremity of femur, viewed from the front with joint cavity opened, exposing the acetabulum and head of the femur.

the destruction, and interference with growth and shortening from this cause result. It is not an unusual experience to find a case of knee joint disease at first show actual lengthening, and later on lose all this, and finally end up with the limbs of about equal length.

At any time during the progress of the disease as described, the surface of the bone may be invaded, and the articular cartilage lifted up or perforated. For a long time previous to this, changes have been noticeable in the cartilage. From a pale bluish tint, the color has become a decided pink, owing to the vascularization of the tissue from underneath. As in the case of the bone, the granulation tissue grows up and takes the place of the matrix, and, finally, perforations occur, allowing the infection to invade

the joint cavity. The cartilage being then attacked from below and from the sides by the vine-like ingrowing of the granulations, is rapidly destroyed, leaving the typical worm-eaten appearance shown by the specimen. You will notice areas of cartilage still hanging on here and there, and in the recent state these looked fairly normal on the surface, except for the pinkish color. Elsewhere the carious bone is exposed, except where it is overlaid by a soft fungous sort of granulation tissue.

Following the entrance of the bacillus into the joint cavity, the synovial membrane becomes infected. Indeed, in many cases it would appear that the synovial membrane is the primary focus of the disease, and, according to Koenig, this is the case in a majority of instances. American surgeons, however, do not credit this statement, believing that they have evidence enough from post-mortem and excision work, to show that, in the majority of cases, the epiphyseal cancellous tissue is the first to be affected. That destruction of cartilage and the underlying bone can result from a primary synovial infection is beyond dispute, however, as is seen in the specimen at hand. It is extremely unlikely that the disease could commence in the bone of both the femur and acetabulum at the same time, and yet the cartilage and bone in each case are practically equally affected. In the acetabulum you will notice the almost complete disappearance of cartilage, and also notice the abundance of dark granulations which have taken its place. When the joint was first opened, this had the typical appearance of unhealthy overgrown granulation tissue. The logical conclusion is, that the disease was either primarily synovial, or that it spread from the bone on one side through the cartilage to the synovial membrane and then attacked the cartilage and bone on the other side of the joint. The appearance of the synovial membrane in this case was quite typical. The whole surface was covered with a pulpy, jelly-like mass of granulations, with here and there a bunch hanging in from the capsule, where a synovial fringe originally existed. This latter sort of thing is better shown in a knee joint, where normally the fringes are long and hang loosely in the joint. The ligamentum teres, at the time of the post-mortem, was still unbroken, but it has since been severed in the handling of the specimen. However, it can readily be seen. Notice how it has been reduced to a mere thread. Usually it disappears very early in hip joint disease, and this fact is used to explain the extensive necrosis that so frequently takes place in the head of the femur in contradistinction to the effect of the disease in other bones.

Before leaving the cavity of the joint, just notice the irregularity of the acetabular cavity superiorly. It looks as if the acetabulum had been squeezed antero-posteriorly, and the cavity, instead of being round, as it is normally, is now quite elliptical,

with the long axis vertical. This is the commencement of the "wandering acetabulum," so typical in old hip joint disease. It is caused by the pressure of the head of the femur upward on the acetabulum surface, which has undergone a rarifying osteitis, and which, therefore, collapses, and allows the upward enlargement of the cavity. In old cases the acetabulum may in this way travel up on to the dorsum ilii for several inches.

Dislocation of the head of the femur is of frequent occurrence, but it practically never happens until sufficient destruction of the head has occurred to allow the remainder to slip past the acetabular rim.

The effect of the long-continued inflammation in the joint upon the capsule is remarkable. Although the ligaments have no histological tubercle present, they become, from prolonged irritation, the seat of a chronic inflammation, whose chief manifestation is a fibrosis, resulting in enormous thickening of the capsule. In the specimen, you will notice that the capsule, which is normally not more than one-eighth of an inch thick, presents in places nearly an inch of solid tissue. It is of importance for the surgeon to recognize that this thickening takes place in every case of synovial tuberculosis in order that he may put the limb in a correct attitude at as early a period in the disease as possible. If he neglects to do this, the correction of the deformity after fibrosis of the capsule has taken place is necessarily attended by severe trauma, and is usually followed by acute exacerbation of the symptoms. In the specimen presented, for example, the thigh lay in extreme external rotation, which could not be corrected before or after the death of the patient. The tremendous thickening and shortening of the capsule posteriorly, which results from the patient constantly lying in that attitude, readily accounts for the difficulty of correction.

The subject of abscess formation has been so frequently discussed before this society that I shall only point out its relation to this specimen, and to the anatomy of the hip. As you know, the joint is surrounded by a capsule which is thickened at three places into special ligaments—the ilio-femoral, the ischio-capsular and the pubo-femoral, respectively. Between these thickened portions the capsule is much thinner, and it is through these spaces that abscesses usually burst. By far the commonest site of these three is the anterior one, between the ilio-femoral band and the pubo-femoral, underneath the ilio-psoas muscle. Here we have a bursa which lies directly on the capsule of the hip joint, and indeed, in one in every ten cases communicates with it. The specimen illustrates the course of such an abscess beautifully. You will notice on the front of the ilio-pectineal eminence the outline of a sinus, extending from the acetabulum upwards to the plane of the psoas

muscle. At the time of the operation, when this abscess was cleaned out, this sinus was discovered leading down into the joint, and in preparing the specimen I was careful to preserve the wall of the sinus to show the course of such an abscess.

The specimen is really an excellent one, and is a valuable addition to the museum, illustrating as it does so many of the features of acute tuberculosis of the hip joint.

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ACADEMY OF MEDICINE

BY JOHN HUNTER, M.B., TORONTO.

FOR several years, Toronto medical men brooded over the problem of uniting the various medical societies into one large and strong organization. One barrier after another was removed, and difficulty after difficulty overcome, until, in 1907, a union was consummated, and the Academy of Medicine founded. A second annual meeting has been held, and so time enough has elapsed to enable the observer to form some idea—in nautical parlance—of the worthiness of the new craft launched on the sea of medical science, and of the haven toward which she is heading. Some optimistic spirits clamored for a more patriotic proposition, viz., a National Academy of Medicine, with fruitful daughter-branches in all our towns and cities throughout the Dominion. For the present, this scheme was looked upon as too visionary, and so it was left for the womb of the future to vitalize the idea of a great national institution that would give to Canadian medicine a distinctive status.

ITS FIRST PRESIDENT.

The Academy of Medicine, like all kindred institutions, is but the thoughts and purposes of men put into a concrete form. It has no vitality apart from its members, and even these could do no effective work without competent officers. However efficient the second President and his successors may prove to be, the record made by the first President—Dr. J. F. W. Ross—will always stand as a splendid tribute of his competency to fill the position. To an inspiring optimism, he added an unwearying industry, business alertness and good judgment. He met all manner of criticism with good-natured inflexibility. The subtle charm that enhanced all he did for the welfare of the Academy of Medicine was the spirit of unselfishness. With a foremost position in his profession, and wealth within the family circle sufficient to keep generations yet unborn in princely affluence, there was no other inducement but love for a noble profession to inspire him. The unanimous verdict of his confrères is, as doubtless that of the future will be, that he filled the position most acceptably and efficiently.

ITS FUTURE.

Emerson's counsel is worth repeating, "We cannot overstate our debt to the past, but the moment has the supreme claim; the sole terms on which the past can become ours are its subordination to the present." It is true the Academy of Medicine, *per se*, has

only a brief history; but as each of its members inherits the characteristics of a long line of ancestors, so it is the legitimate heir of the wisdom and experience of the societies whose incorporation into one body gave it birth. All experience of the past teaches that if the Academy of Medicine is to fulfil its mission in the future, it must rely upon the intelligence, industry and loyalty of all its members. These must strive to impress upon every graduate in medicine, the obligation that rests upon him or her to become a member, and to assure him or her of the great benefits to be derived from such membership. The Academy incorporates all the features of a post-graduate school, clinic, and social club. Highly and justly as we may appreciate the value of the reading, at home, of a good article or book, yet there is lacking the subtle charm of the living voice, and of the gestures and personality of the writer. No one is asked to believe all that is said, or acquiesce in all that is done; in fact, honest, intelligent criticism is always desirable, as is so tersely expressed by Osler: "During the next century, the new and the old will fight it out in these rooms in keen discussion, just as they have done since the days of Hippocrates. Time and again, it will happen that the new will not be true, and the true will not be new. The yesterday is forever being brought to trial at the bar of to-day, and the verdict is rarely unanimous; often it is wisely a case of judgment deferred. Look over the questions discussed twenty years ago; some are dead—judgment gone by default; some are still pending; a few are settled—or we think they are; many seem antiquated." The Academy makes no appeal to its members for uniformity of opinion, but it does claim uniformity of purpose, and unfaltering allegiance. No young physician should be beguiled by the apathy shown by a few older men. These may have succeeded fairly well because their confrères had not the advantages of medical societies or libraries, and so all had to compete on an equality. The ambitious graduate of to-day has no such handicap as his predecessors of a few past decades had. The Academy of Medicine, medical associations and societies, clinics, laboratories—all these are within his reach to aid him in scientific work. The young physician who, through apathy, ignorance or indolence, isolates himself from such potent aids, makes his life a hard, monotonous, non-progressive one. Listen to Osler's experience: "No one can have participated as I did in the work of this society, without feeling that it is one of the most potent factors for good in the city and the state. The annual and semi-annual meetings, benefiting alike hearts and heads, have brought us together in friendly rivalry, and have strengthened the bonds of good-fellowship. All crave companionship and encouragement, particularly when young, and these gatherings help to counteract the sterilizing influence of that isolation

in which so many men have to work. Look about and ask: Who are the happiest men in our ranks? Those who do not neglect the gathering of themselves together at our meetings. Who are the busiest? Those who are the most faithful in the discharge of their duties to the society. Who are most prosperous? Those who give to it much of their time and substance." Every reputable physician in Toronto and in adjacent vicinities should be a member of the Academy. But to no class should it make a more irresistible appeal than to the younger members of the profession, lest the years come when they will take no pleasure in attending its meetings.

THE VETERANS' SECTION.

The Academy has already a section, whose mission is to deal especially with the factors in life's first decade, viz., Pediatrics. It has as yet no section devoted to the factors incident to the on-come of age. All history and experience teach us that the high mortality in infancy and early childhood is most discreditable to our stage of civilization, because it is largely preventable. The same can just as truly be said of the high mortality in life's later decades, because equally preventable. The vast host of people between fifty-five and seventy, whose mental and physical powers are far more impaired by disease than are those of many veterans between seventy and ninety, is as great a stigma on scientific medicine as it is on the character of our civilization. If the period of development requires such careful medical supervision, the period of devolution requires, in no less degree, the same oversight. This problem should make an irresistible appeal to the Academy of Medicine for the wisdom and experience of the aged members may be quite as valuable as the energy and enthusiasm of the younger ones. The sturdy old oaks in the forest protect the young saplings until their roots are securely embedded in the earth, and their fibres have acquired the strength needed to withstand the wild fury of the storms. It is a wise provision in nature to have old and young commingle. The conservatism begotten of experience tempers the radicalism inspired by enthusiasm. The Academy would be greatly benefited by the enrollment in a section of those who have been in practice, say over twenty-five or thirty years, and whose special function it would be to deal with the problems incident to the on-come of age. These members would not be debarred from taking an active part in the other sections. Again, all who have been in practice for a quarter of a century or more owe it to themselves, not only to try and preserve their mental and physical stamina well on to the "three-score years and ten, or the four-score limit," but also to keep so fully abreast of the times as to help dispel the delusion haunting the minds of so many young and middle-aged physicians, viz., that when a man passes fifty, he must

become, almost automatically, a "back number." While mental and physical powers remain unimpaired, age should have practically nothing to do in making any man a "back number." If he has inherited, or acquired, the scientific spirit, and if he has made a wise use of his opportunities, instead of age being any handicap to the medical veteran, it should give him an immense advantage over his more youthful confrère. The stigmata that give rise to the rather opprobrious term, "back number," may be just as much in evidence any time between twenty-five and fifty as between the latter period and eighty. No man becomes a "back number" unless he is willing, through indolence or lack of the scientific spirit, to do so. The Academy will honor itself and confer a boon on its members by forming a section of those who have seen many years of service in the ranks of their profession. The on-come of age has its own problems, which would amply repay a most careful study of them.

MANAGEMENT OF INFECTIOUS DISEASES

BY MISS KATE MATHIESON, TORONTO.

IN every infectious disease, very much may be accomplished in the way of prevention. Unfortunately in the majority of such diseases there is no specific, prophylactic treatment such as we have in smallpox. If such were the case, it would only be a matter of time until all infectious diseases would be exterminated from the category of medicine.

However, we must not overlook the value of anti-diphtheritic serum and vaccine therapy, and while we have not derived from them all that our expectations may have desired, still, there is no doubt but that a great field of research has been opened up, and ere long much may be accomplished which shall be of value from a practical standpoint.

Since we are not yet able to produce immunity against all forms of infectious diseases, we must try and limit every focus of infection, and also try and prevent the germ-carrier from mingling with the public.

To limit every focus of infection is not always such an easy matter, because:

1. There is an absence of symptoms in a great many cases, and consequently the physician is not consulted.
2. The laity are often very ignorant of the importance of preventing contagion. If these difficulties could be overcome every infected case should be placed under rigid quarantine. Every case should be isolated, if not in an isolation hospital, in a suitable room in the private house, and neither the patients nor the attendants allowed to mingle with the public. Schools and churches should be closed where the disease is epidemic, public funerals should be prohibited, and children should not be allowed to play together on the street. Then the importance of the living germ-carrier in disseminating infection, although a comparatively recent discovery, is worthy of consideration.

There are at least four types of carriers:

1. Mild or unrecognized cases.
2. Convalescents released prematurely from quarantine.
3. Nurses, physicians, attendants, members of the family and articles which have been in contact with the patient.
4. Those persons who have never showed signs of illness, and who have not been in contact with a germ-carrier and who nevertheless harbor the specific germ.

Types I. and II. have been recognized for some time, and medical school inspection has taken into consideration the importance of control in such cases.

The danger from the other two types, although well-established,

lished, is not widely known. For example, when diphtheria breaks out in a home, those exposed are often given a prophylactic dose of antitoxin and because they do not develop an acute attack of diphtheria, they conclude that there is no infection present. This may not be the case, however, and in certain cases a sort of biological toleration seems to be established between the bacillus and the patient, so that the person will become a chronic diphtheria carrier, although remaining entirely well.

The fourth type of carrier, in whom no history of illness or contact can be secured, is more difficult to detect and control. In default of routine examination of all school children, the presence of gerin-carriers of this class is only brought to light when cases of the disease due to their agency appear in a school or institution. The existence of such gerin-carriers makes it imperative to trace to its source every case of an infectious nature breaking out in a school or institution.

The next important matter with regard to prevention is the thorough disinfection of the room, and everything that has been in contact with the patient.

Every city should have a steam disinfecting station where all articles, such as carpets and bedding, etc., can be thoroughly disinfected. Failing in this, they should be thoroughly disinfected by other means or burned.

The above precautions having been taken, we can still assist nature in strengthening our constitution, and in increasing our resistance, and, therefore, decrease the liability of being afflicted by any disease.

The consideration of the hospital management of cases of an infectious nature, I think it well to consider under two classes: 1st, the mild cases; 2nd, the severe cases.

Wherever a mild case enters an isolation hospital, we have to take into consideration, not only the patient, but also the friends and the public. The first and one of most importance is the patient. I might say here that I do not intend to go into a detailed account of the medical treatment, but merely the general management and difficulties with which we have to contend; and while the actual treatment of any mild case of diphtheria, for example, consists in leaving it to nature, or in giving a few thousand units of antitoxin, still we must not overlook the importance of the persistent vigilance necessary in the successful nurse in order that severe or fatal complications may not occur. For example, as a matter of routine, the temperature in mild or convalescent cases is often looked upon as being of no importance, and consequently its accuracy is sometimes questionable when taken by a disinterested nurse, but every nurse who has had a thorough training in infectious diseases, knows only too well that it may be an indication of some complication or associate condition which may mean nights of worry to the friends, and

days of persistent vigilance and constant attendance to herself. Therefore, the slightest elevation of temperature should be reported at once, and if thorough examination of the patient by the physician reveals no complication, the patient should be put in a single ward in case he may be developing something of an infectious nature, and the development watched closely until the physician is satisfied that his suspicions were unfounded. It is only in this way that you can minimize the ravages of a secondary infection in an institution dealing with contagious diseases, which are most prevalent among the young and immature.

The next difficulty with which we have to contend is the friends, and it seems to make but little difference whether they come from the domicile of the poor or the palace of the rich, a great many expect privileges which it would be dangerous to allow in an isolation hospital. Therefore, it is well to have certain fixed rules founded on the principles necessary for the prevention of contagion, and adhere to these rigidly, irrespective of the ill-will which you will undoubtedly obtain during the patient's stay in the hospital.

Now let us consider briefly the management of a severe case, and I think it well to confine our attention to a severe case of diphtheria, because, I think, there are few diseases that require the same amount of constant vigilance, shrewdness and good judgment on the part of the nurse as a severe case of diphtheria. Few diseases prove fatal in such a short time. Few diseases are so fatal without showing more physical signs, and I might also say that there are few diseases in which there can be more done if only we are able to interpret the danger signals in sufficient time. You might ask me what I would consider a severe case of diphtheria. The answer would be: All cases showing a pharyngeal exudate covering more than the tonsils, all cases of laryngeal invasion, all cases with pharyngeal exudate and profuse nasal discharge, and all cases with much enlargement of the cervical glands or evidence of toxemia should be considered seriously and watched closely.

The nurse in training, however, has no doubt divided these into two great classes, because to her they seemed the very opposite, and, therefore, the more striking from a comparative standpoint. On the one hand she notices the child with enlarged tonsils and marked peritonsillar swelling; she notices that not only the tonsils, but also the uvula, the soft palate and part of the hard palate are covered with membrane. From the nose there is a nasty, offensive, sanious discharge. The temperature is but slightly elevated, and the pulse somewhat accelerated. But more pronounced than all of these is the general appearance of the patient. The child seems very dull and listless, and his face bears that peculiar ashy and distressed appearance which, when once seen, can scarcely be forgotten; in it alone can the shrewd

and observant nurse read the prognosis almost as easily and accurately as the ordinary individual can read the barometer. These are the cases which, unfortunately, have been mistaken by the parents for mumps, croup, bronchitis, and endless other maladies, and consequently have received little or no treatment, and they are terribly surprised when the physician informs them that it is "too late." I mention this as an extreme case possibly, to show you how important it is for the nurse to keep up a constant scrutiny lest what at first appeared to her a mild case might pass into one of this calibre, and I might say that I have seen them do so in less than twenty-four hours, and you can imagine how humiliating it must be for a nurse to be told by the physician that he was not called in time. It is by recognizing these conditions as early as possible that the nurse can be of greatest service to the physician.

On the other hand, she has seen what appeared to be a very mild case, with apparently very little evidence of toxemia, do well for about two weeks. Then, without apparent cause, the child commenced to vomit, but she paid no attention to this, and allowed the patient to sit up and, to her surprise, the child suddenly became worse and died. Now the observant nurse would have noticed that previous to these symptoms there was a sudden drop in the pulse rate, and that it was also slightly irregular, and, no doubt, would have kept the child in a recumbent position and absolutely quiet and, with the assistance of the physician, whose attention she would have directed to this, she would undoubtedly have avoided this apparently sudden and fatal syncope. I take this as an instance of the care required with respect to complications involving the heart, and those of you who are familiar with diphtheria will no doubt agree with me that it is not exaggerated. True enough, many die from heart failure, the result of a thrombosis or change in the muscle wall itself, and the premonitory symptoms indicative of such changes are seldom so well marked that the nurse should always be expected to apprehend them, but in a case such as I have mentioned, where prodromal symptoms are invariably present, where we invariably find a sudden drop in the pulse rate, vomiting, abdominal pain, and disturbed respiration, there is no excuse for her if she does not recognize them and take the necessary precautions.

In conclusion, I have taken into consideration the fact that I am addressing an audience who are quite familiar with the management of any acute illness, and consequently to mention anything about hygienic, dietetic and medicinal measures would only be a repetition of well known facts. I hope that you will pardon me for undertaking the discussion of a subject which is undoubtedly worthy of the consideration of the physician rather than the nurse.

Selected Articles.

ADDRESS TO GRADUATING CLASS AT THE HOSPITAL FOR SICK CHILDREN

BY REV. BYRON H. STAUFFER, TORONTO.

MR. CHAIRMAN, Superintendent, Nurses, Ladies and Gentlemen,—I have taken a little interest—just a little—in the work of the Hospital for Sick Children, and I am sure I voice the sentiment of every friend on my right when I say it gives us all pleasure to be here to-night. I count it part of my Christian education to have known something of this hospital.

I have seen a good many parades, and I think the largest in point of number was the parade of the Grand Army Veterans some years ago, when their number was far larger than it is to-day, and in the short time I have been in Toronto I have seen some processions go down Yonge St., but I do not know that I have ever seen one as grand as the royal parade of carriages, with the nurses holding sick babies in their arms, which came up Yonge St. one day last autumn. And ever since then I have resolved to have perhaps a little more than a kindly word to say about this enterprise.

Now, I am commanded by the king on my left (Mr. Robertson) not to say a word about him to-night. Thus at the outset Mr. Robertson puts a very heavy handicap on me, but some time I hope to have the privilege, nurses, of saying to you behind his back what I dare not say about him before his face, and tell you what I think of him.

I must go this far to say that when I get my ideal ministry organized—and we all have an ideal church and an ideal ministry—when I get my ideal church and ideal ministry organized, I am going to nominate Mr. Robertson as the Bishop. (Applause).

There is no one better qualified to be a Christian minister and be the head of the whole institution than this same gentleman that plays Santa Claus once a year at the Hospital for Sick Children.

I once was present at the consecration and installation of a bishop. They prayed for him; they heard his credo and his vows; they placed the gospels on his back. His good old Irish mother's face was radiant with glory when she saw them place the mitre

on his head. They put the fisherman's ring on his hand, and led him to his throne. They handed him his crozier, and gave him their pledge of loyalty, and each priest of the diocese walked before him to kiss his ring. At last, when all this was over, he arose, walked down the aisle of the cathedral and up the side aisles, and with murmured words and extended hands, he blessed the people. He repaid their honor and their loyalty with his blessing.

To-day is our day to honor you, nurses. To-day we congratulate you; to-day we install you into your office. You have been crowned with the coronet of a nurse's cap. To-morrow we expect your blessing. You will walk down the aisles of bed-rooms and bless us with the blessings of trained and painstaking care. You will carry the treasures of our cradles in your arms, or perchance minister to ourselves. You will open a shutter, lower a window, administer medicine, soften our pillow, perchance hold our dying head. It will be your turn then. So it is perhaps with a bit of pardonable self-interest mingling with our motives, that we honor you this evening.

I think, Mr. Robertson, that all Toronto should be here to-night. The occasion is more important than the opening of a baseball season with a lieutenant-governor in the pitcher's box; more important than the launching of a Dreadnought, or the beginning of a Gipsy Smith mission. I was almost going to say it was more important than the graduation night of a university, for you, nurses, could not have a greater Alma Mater than this Hospital.

A hospital is a Christ House. I think it is about the first place Christ would visit were He to come to Toronto in the flesh. He does visit all hospitals, in spirit, every hour. My data for this is that He was ever found among the sick and the lame when He was on earth. The first hospital was a Christ House. This I say despite the fact that the earliest institution of this kind of which we know was formed by Buddhist priests, two hundred years before the birth of Christ. They foresaw the rising of the Sun of Righteousness in the early dawn of the day. They had the spirit of Christ. They got it in advance. Their deed makes the indifference of 20th century Christians towards such an institution as this the more inexcusable. ▲

Yours is a great Alma Mater, nurses. I did not fully get the significance of it all until yesterday afternoon, when I spent an hour in the institution yonder, and in this adjunct of that institution. This is a model Nurses' Home. You can be as proud of it as the graduates are of Oxford or Harvard. It is of little wonder that graduates of Toronto Hospital for Sick Children are in demand the continent over. People will know you by your diploma.

The medical world, at least, knows that an institution that touches the lives and bodies of 1,300 children annually must naturally put a stamp of excellence upon its graduates. You have the right brand. You may boast that you spent three years in a Children's Hospital unequalled in America, and unsurpassed in the world.

You have a great profession. It is great because it alleviates distress and uplifts men, and that is the supreme test of all professions. The nurse is the handmaid of Christ. A German artist has painted a picture to suit the title, "Is it nothing to you, all ye that pass by?" He has painted the Lord Jesus upon a cross, with mankind filing past him from the back of the cross forwards. There is the newsboy, the giddy youth, the anxious-faced merchant, the proud prince, the lady of fashion, the mother with her babe in her arms, the working man, the robed ecclesiastic, the soldier, the statesman. The only face turned towards the suffering Christ, with a look of pity, is that of the nurse. She catches a glimpse of the office of the Christ. The patrons of your calling are Saint Florence Nightingale and Saint Clara Barton. We preachers are prone to speak of ours as the highest calling.

I once heard a clergyman lecturing at a lake resort upon the glorious sacrifices of the pulpit. The address was scarcely over when we all rushed out to the shore in answer to the alarm of a drowning accident. Three white-faced bodies lay on the sand; it was an awful sight. The lecturer said: "Come, let us away! This is too horrible!" Just then we witnessed a scene that held us spellbound. A nurse enjoying her vacation at the resort rushed out and superintended the work of resuscitation. She put her mouth to the mouth of one of the poor victims in a protracted effort to blow breath into the water-filled lungs. She humbled herself to do this work of the Christ.

You have a right to expect, nurses, that society will open its doors to you. You are not to be counted a menial. You stand on a pedestal of respect. The homes of the well-to-do will be open to you. The world will take off its hat to you.

You must have love, the unselfish love of Christ. The emphasis of the mission field is changing. Doctrine is no longer preached, but mercy is practised. Hence the nurse and the physician are beginning to be pre-eminent, perhaps elbowing out of the way the narrower work of the missionary of by-gone generations. That is a sign that Christ is here. Going through this hospital yesterday, following Mr. Robertson, and making a faster trip than I ever made on the Empire State Express, I saw signs that Christ is here.

I saw club-footed children being transformed by the blessed power of the knife of the surgeon. I saw the straightened limbs

of a girl who had hobbled into the hospital with legs bent like a pair of crossbows. I heard of a mother who did not know her four-month-old babe when it was given her a few weeks after it had been brought in with the most repulsive kind of a hare lip. "This is not my child," she cried, when the little one with its corrected mouth was brought to her, "You have exchanged my baby. Where is my child?" The picture of her deformed child had to be brought to her before she believed.

No wonder she broke into a flood of tears, tears of joy, as she carried the dear little thing to her home. Those are signs that Christ is here. John the Baptist once asked—"Art thou He that should come, or look we for another?" Do you remember Christ's answer? "Go and tell John that the blind receive their sight, the lame walk, the lepers are cleansed, the deaf hear, the dead are raised up, and the poor have the gospel preached unto them." Most of these signs follow the course of the modern hospital.

I need not tell you, nurses, that you need the patience, the self-sacrificing patience of Christ. You will be with people when they are the most petulant, the most whimsical, the most complaining. You will need to develop the art of gentleness. That art can be nurtured and developed by anyone who tries. You will need to smile away annoyances. You will need the saving grace of humor, to receive all kinds of complaints. The humorist is a benefactor of society.

Artemus Ward showed himself to be a real humorist, even when he was dying. The nurse lifted up his head to give him a potion that might relieve his cough. "Take it, take it," she coaxed, as she pressed it to the reluctant lips. "Do take it; take it for me; I'd do anything for you." "Would you?" murmured the dying man, who had made all London laugh, as his face lit up with the thought of his last joke—"Are you sure you would? Then take my medicine, will you?"

There is nothing like sunshine in the sick room. The sweet-voiced and sweet-hearted evangelist who is at Massey Hall, loves to shout, "Get the shine on your face." Too much sunshine is better than too little.

They tell of a certain army hospital during the Spanish-American War that had a corps of nurses of exceptional beauty, and if there weren't a few young men in the room, I would say just such a corps as those who are here before me to-night would have made. But it was whispered that these fair nurses were inclined to a little frivolity, inclined to flirt just a little, with the ailing young soldiers under their care. Now, when a soldier felt on the mend a conversation with a pretty nurse was delightful, but when

his wounds were troublesome, then gallantry was a thing he was hardly up to.

So one day a nurse came to the bed of a favorite soldier, and found him lying with closed eyes as if asleep, with this note pinned on his pillow, "Too sick to be nursed to-day—John Smith." And yet it was said that that particular hospital stood at the head of the list in the percentage of cures. The smiles of the nurses helped.

You will need all the tact of a bright intelligence. Our age is one of reason. In A.D. 1609, scolds were labeled and witches burned. But in 1909 we seek a reason even for scolds, in diagnosis and psychology. A little Brooklyn boy fell from a fence, landing on his head. He at once changed from the best to the worst of boys. In the olden days they would have said: "He has a devil." In the hospital the doctor lifted a little piece of his skull and he resumed his former good conduct. I know some children in Toronto who perhaps ought to have a little piece of their skull lifted likewise.

You dare make no mistakes in mixing the medicine. There will never be an apology made if you take the wrong bottle and give the wrong dose. We commit to you the treasures of our homes. I well remember five strategic weeks of my fatherhood when I made an every morning visit to a hospital, emerging from the street car to break into a rather undignified run of four blocks, dashing up the steps to the room where my little five-year-old girl was lying, with a nurse for her guardian angel. To the fidelity of that nurse, almost as much as to the skillful hands of the noble surgeon, I owe the fact that she is here, in this audience, this evening.

What tact the nurse can develop. Into this hospital I came one night to baptize a dying babe. I heard a child's voice in an occasional wail that told of physical torture. "That little five-year-old girl had her limb amputated at noon," explained the superintendent. Oh, poor little darling, you'll hobble through life's vestibule, but when you enter the real life through the gates of the City of Gold, you will walk straight along, without a limp. The nurse seemed to get right down under that child's cross and to bear it.

Hours had passed since she had first bent over that poor little girl crying for mamma and saying, "It surts, it surts," and still the young woman with the white headgear was humming away, with her cheek down close to the little sufferer's face, and her hand patting the curly head. Angels never saw a more glorious sight. But she couldn't get her patient to sleep. A series of sobs, punctuated by sighs and then a scream, "It surts, it surts."

Then a clever idea reinforced that nurse's resources. She got

a big dolly and held it towards the little girl, saying, "Dolly's hurt; put her to sleep. Dolly's foot hurts, too, put dolly to sleep." Nurse started a lullaby—"Go to sleep, my dolly dear." The child became interested in the effort, and joined in humming, "Go to sleep, my dolly dear." Then there were some broken-off sighs and some long, long breaths,—and nurse's voice, now singing a solo, became lower and lower as she came softly away, for dearie was asleep beside her dolly.

Oh that nurse was a brick. That nurse represented the most Christ-like spirit of this age. Her tact lay in the precious truth that concern for others makes us forget our own troubles.

You will need all the reverence of a saint, for you will often stand in the presence of death. The doctor rarely sees the sufferer die; the pastor rarely sees his parishioner die; but you must. That is your heaven-given ministry. When President McKinley died many pictures of the surgeons that operated upon him were published. But one magazine did honor to the nurses that attended him, and gave the public the pictures of the two women who ministered to the dying statesman when he needed his last cup of cold water. Have self-respect then, nurse, for you are a minister of Almighty God.

All this I have said as if you will always be a nurse. So you will. But your experience might be like that of a nurse whom I had as a respected member of my congregation in another city. She came to say good-bye one Sunday evening, and I asked her to write me a letter when she reached her destination. She did. The letter read: "Dear Mr. Stauffer,—I have taken a steady position to nurse—one man. He is not very sick. I send you his picture. He is my husband." I told of that incident to a circle of my friends. "Then, for goodness sake, why did she go through all the trouble of training for a nurse?" asked one helpless little woman.

I might have answered, "To avoid being like you." It would have been true. Now, no matter whether you do like my nurse did or not, you will have a personality in which you may always feel a pardonable pride. You will be strong. You will have had experience. You will know how to enter a room softly, and how to speak softly and tenderly. You will know how to be neat; how to be gentle; how to be brave; how to endure hardship; how to live in any condition; how to grace a cottage or adorn a palace. What you do and in what capacity, whether single or married, will not be nearly so important as what you are, as the result of having been a nurse. Qualities alone count. Even if you take off the nurse's cap, these years will be an asset, not a waste.

I remember the night when the lights of the Pan-American Exhibition in Buffalo were turned out forever. One moment we

still looked upon that dream of glory, the next moment all was black as a starless night. We went home with an indescribable sense of loss. Those light-crowned domes, those blazing arches, that great shaft of electric splendor had sunk into impenetrable darkness. We looked back as if rather expecting that our idol would absolutely refuse to be broken. But it was really gone. And yet, was it altogether obliterated?

Did not ten million pair of eyes look upon it? Were not a million souls stirred by its sublimity? Were not its qualities of grandeur carried away as so many relics, to be enshrined in countless homes and communities? Qualities are greater than material possessions. Nothing is lost. Nothing of experience is in vain. Glory then in the fact that the rich qualities of a nurse will abide with you forever. (Applause.)

THE INTESTINAL TRACT AS A BREEDER OF DISEASE

BY WILLIAM F. WAUGH, M.D., CHICAGO.

OUR position upon this topic is so well understood by a large number of our readers that it would seem impossible to add another word to what we have said. However, our ranks are constantly gaining new recruits, and in such numbers, that it seems well worth while for us to speak these old truths again, and to define the exact conception we have formed of the matter.

Many patients suffer from constipation during the greater part of their lives. The tendency to this increases with age, especially as the habits become more sedentary. Fever, no matter what is its cause, invariably has the effect of checking the intestinal secretions, lessening the supply of these natural disinfectants of the alimentary canal, while the increased radiation of fluid tends to dry the blood and increase absorption from the alimentary canal into the circulation. Under the influence of the increased heat, bacterial action and the generation of toxins in the nitrogenous material in the bowel goes on with prodigious rapidity.

Thus we have increased toxin-formation and increased absorption. This is so uniform a condition that we firmly believe that every case of febrile disease is characterized by a certain degree of fecal auto-toxemia, and that to this cause is to be attributed a certain proportion of the symptoms shown by every febrile case, no matter whether the fever be of specific or nonspecific origin. Consequently we believe that by completely emptying the alimentary canal and disinfecting it, and subsequently keeping it

clear throughout the course of the febrile malady, we subtract from the symptomatology of that case whatever portion would otherwise have been caused by fecal toxemia.

Hence, we lay down as our first principle in the treatment of febrile maladies of every description the importance of keeping the alimentary canal clear and clean. The results of this treatment, not by ourselves alone but by thousands of our colleagues all over the country, amply justify this principle, and the maxim of "clean out, clean up and keep clean" is to-day a recognized foundation stone in clinical therapeutics.

The influence of this element in the causation of many maladies is just beginning to be understood. We have been urging it upon the doctor for a full quarter century, but only during the last few years has the profession taken it up in such a manner as to justify our views upon the generality of this condition. It is now fully established as a most important element in the causation even of certain maladies of the eye, and many an ophthalmologist has testified to the improved results which have followed in the local treatment of ocular maladies, when the bowels had been put in proper condition. The same is true as to maladies of the ear, nose and throat. Attention likewise has been called to the importance of this element in the causation of mental disease.

Many years ago Sir Lauder Brunton called attention to fecal toxemia as the principal etiologic element of locomotor ataxia and of other chronic affections of the spinal cord. It may readily be understood that, when these toxins are present in the circulating fluid, the delicate, highly specialized cells of the nervous system should be particularly sensitive to the malefic influence.

It is now dawning upon the minds of many that there was much truth in the belief of our grandfathers that disorder of the liver was responsible for many of the ailments for which the patients resorted to them. But we now know that the disorder of the liver is nearly always due to the reabsorption of fecal toxins, which the liver intercepts and throws out again and again into the bowel.

Much of this matter escapes the straining action of the liver, and some of it passes out through the kidneys in the form of indican. Some passes out of the body through the skin, inducing on its way pruritus, urticaria and many other dermic affections. In the meanwhile that portion which passes into the general circulation induces multitudes of disorders. *Where the point of lowest resistance is situated, there we find local disease as one evidence of this general impurity of the circulation.*

Most of the maladies attributed by Haig and others to uric acid may confidently be ascribed to fecal toxemia. Melancholia, depression of spirits, "the blues," sluggishness, indisposition to

apply oneself to the labors and duties of the hour, are so frequently due to fecal toxemia, that treatment of that malady is *a priori* indicated by the presence of this mental condition. Nearly if not all of those innumerable conditions which present themselves in sufficient force to make our patient uncomfortable, unfit him for the ordinary duties of life and deprive him of the pleasure of living, even though they may not send him directly to his physician for relief, may be ascribed to this cause.

The treatment, however, is by no means simple, as the above clear-cut description of the malady would lead one to suppose. When we say, "Clean out, clean up and keep clean," we have a readily comprehensible maxim on which to act. But to act effectively is another matter.

It is by no means all, to give a cathartic, or even to supplement it with intestinal antiseptics or a colonic flushing. I have applied this system for three weeks to an overloaded impacted bowel before fully accomplishing the object. Examine the abdomen carefully, note the symptoms of fecal toxemia, so carefully that you will be ready to recognize the malady when any of the symptoms present themselves, and confirm your diagnosis by repeated examinations of the urine for indican—not forgetting the significance of heightened acidity. Then apply your treatment and see how long it will take you so completely to relieve the conditions that the indican disappears and the reaction falls to normal.

An excellent routine measure is the administration of calomel, or of podophyllin, gr. 1-6 of the former or gr. 1-12 of the latter, repeated every hour for six doses, or the standard "Calomel, Podophyllin and Bilein" of the Abbott list, this to be followed by Saline Laxative or Salithia sufficient to produce watery stools. Supplement this by throwing into the bowel as much as it will hold of warm water containing in half a gallon one ounce of sodium bicarbonate. Let the patient lie on his back while taking the enema, or occupy the knee-chest position. Let the enema flow in slowly. The object is to distend the bowel, without however causing pain. After the bowel has been filled and emptied, the latter process being aided by gentle massage, it is well to throw in a pint or more of the alkaline solution and allow it to remain until evacuated naturally. Gentle massage may be employed during this period. When the bowel is apparently emptied, inject a pint of the same solution with 5 to 15 grains of zinc sulphocarbolate.

If indican still shows in the urine after the colon has been completely evacuated by four or five days' treatment of this kind, it is evident that there is some impaction in the small bowel also. For this condition juglandin in small doses, gr. 1-6 every hour

through the day, often will prove sufficient in addition to the above-suggested treatment.

Meanwhile the alimentary canal should be rendered as nearly aseptic as possible by the use of the sulphocarbolates, preferably in the form of the W-A Intestinal Antiseptic. If acidity is present, sodium sulphocarbolate is useful. Of this 40 grains is the average adult daily dose. This should be continued until the stools have no longer any abnormally unpleasant odor. Then the sulphocarbolate may be reduced to a quantity just sufficient to maintain this effect.

If there is a hemorrhagic tendency, if the patient is disposed to tuberculosis calcium sulphocarbolate may be substituted for the sodium salt, in similar doses, given in the same manner.

If the fetor of the stools is unusual or there is any reason to apprehend the infection of the alimentary tract by pathogenic bacteria of any description, as in typhoid fever, dysentery or choleraic maladies, or if fermentation or gas formation is present, zinc sulphocarbolate is the best remedy. This may be administered in half the doses recommended for sodium sulphocarbolate.

There is no possible advantage in administering any intestinal antiseptic before the bowel has been emptied. No such agent can be expected to penetrate dry, solid fecal masses. But after the bowel has been evacuated the advantage of these remedies is so great that a single trial can scarcely fail to convince the physician of their efficacy.

Possibly there are other antiseptics that would answer as well. I do not believe it. I know of none which offers the advantages of the Abbott sulphocarbolates. They are presented in a high state of purity. They are not secret. They present no ulterior danger, such as hemoglobinuria, which is liable to result from salol or from any other preparation from which phenol may be freed in the intestines. In the high state of purity to which the Abbott laboratories have brought them they are easily given and non-irritating, and they are cheap.

The principle of "clean out, clean up and keep clean," of the correction of vaso-motor disequilibrium by the defervescent alkaloïds, the application of Calcidin to the forming stages of catarrhs and other maladies, the use of the H-M-C compound tablet as a desirable hypnotic, analgesic, antispasmodic and anesthetic, and the application of definite, unchangeable, therapeutic agents for the treatment of disorders of the physical functions, as presented in any malady, are right and will endure.—
Helpful Hints for the Busy Doctor.

THE TREATMENT OF INFANTILE DIARRHEA

IN a paper on this subject by Dr. W. Lauzun-Brown, London, Eng., published March, 1907, in *The British Journal of Children's Diseases*, under, "After Treatment," Dr. Brown says:

Children stand starvation very badly. Feeding should be begun early. Milk sets up flatulence and distension, and encourages fermentation and the growth of bacteria in the alimentary canal. Sterilized olive oil, *per rectum*, or hypodermically, is very efficacious. Some form of sugar (one gramme equivalent to nine calories same as fat) may be injected subcutaneously, but it is important to use a weak solution to avoid abscess formation.

If the child lives through this stage it will thrive subsequently on what Trousseau calls the "raw meat" diet. When it is found that milk preparations continue to disagree with the child, it is suggested that it should abstain from them, and should live upon nothing but the old-fashioned barley-water for two or three days, and then return to a proteid diet of raw beef juice, clear chicken soup, or white of egg and water for a day or two more, and at the end of this time the child may be able to take milk again. A vegetable bouillon is recommended by French authors, made by adding to a quart of water, carrots 65 grms., potatoes 65 grms., turnips 25 grms., dry peas or beans 25 grms.; boil in a covered dish for four hours, and add 5 grms. of salt. Prepared daily, and used fresh every three hours just like milk, it has been found useful for babies from eighteen days to two and three months.

In this disease, where all milk disagrees, it is found that a pure cereal infant food can be used with great advantage. *I have always used Neave's food as an absolutely pure cereal preparation, free from any additional chemical matter, and free from the presence of peptonizing agents.* This food agrees with infants when they are recovering from infantile diarrhea. It is all very well to lay down hard and fast physiological lines in regard to starchy matters disagreeing with infants. It depends on the quality and quantity of the starchy matters, especially the quality. It is the paradoxes of life that beat physiologists and create new fields for investigation. It is known that in certain diseases of infancy where milk diet is entirely forbidden, and conspicuously so in infantile diarrhea, an infant's life may frequently be saved by the administration of a pure cereal food. I have used Neave's food in many cases of infantile diarrhea, and with striking success.

Trousseau's beef or fowl diet.—Trousseau's method of making his beef or fowl diet—beef and mutton are preferable—is as follows: Cut it up into very small morsels, then put it into a

mortar, and with the pestle work into a thick mass. The pulp so made is then passed through a cullender so fine as to permit nothing to be used except the juice of the meat and the fibrine of the blood, leaving behind blood-vessels and clear cellular tissue. By this means is produced a *purée de viande*, which is collected by scraping the external surface of the cullender. Convalescence is sometimes slow, and tonic treatment has to be administered, such as nux vomica and iron or perchlorides, or the hypophosphites.

Conclusion.—The modern methods include hypodermic injections of strychnine—a dangerous drug for infants—and transfusion of saline fluids into the subcutaneous cellular tissues, followed by the mustard-and-water bath, stomach lavage, rectal irrigation (4 ounces of $\frac{1}{2}$ per cent. solution of protargol, and other salts), feeding with a milk-free albuminous diet, with a little brandy as a stimulant, and the use of certain drugs. No principle unknown to the fathers of medicine nor any new method is here involved, if hypodermic injections of strychnine and the rectal injections of serum, which is as yet in the experimental stage, are omitted from the list as being of doubtful value.

School Hygiene.

SCHOOL HYGIENE IN TASMANIA

THERE was recently presented to both houses of parliament at the command of H. E. the Governor of Tasmania the first report on the work of the Medical Branch of the Education Department, by Dr. J. S. C. Elkington, D.P.H., Chief Health Officer.

The Medical Branch was established on March 1st, 1907, by the appointment of Dr. Gertrude Halley, Medical Inspector of State-Schools (General); Dr. A. H. Clarke, Medical Inspector of State-Schools (Actual); Dr. G. H. Hogg, Medical Inspector of State-Schools, Launceston. These officers are paid by the Department of Education, and their work is directed by the Chief Health Officer, Dr. Elkington, in accordance with an arrangement sanctioned by the Honorable the Minister of Education. Dr. Elkington states that close co-operation with the Director of Education is maintained in all principal details, and special care is taken to adapt the administration of the Branch to the methods and requirements of the Department of Education.

One thousand and twenty-two visits have been made by the Medical Inspectors, and 78 per cent. of the pupils in attendance have already been inspected, the number actually inspected being thus over 11,000. Medical treatment is not undertaken. Dr. Elkington has noticed an almost entire absence of parental objection, and a complete confidence and absence of fear or nervousness shown by the children towards the Medical Inspectors. One of the most important things in the report is the adoption of the letters I.E.P. (Interfering with Educational Progress) to mark a difference between a mere examination according to an ideal standard, and a useful, sensible application of the medical inspection to the educational and personal interests of the child. It is likely that we shall all borrow the I.E.P. from Tasmania. Nervous diseases are relatively unusual in Tasmanian school life. Chorea is comparatively rare. Seventy-one mentally defective children are recorded "not imbeciles or idiots, but incapable of benefiting by the ordinary methods of teaching." Dr. Elkington says special teachers must be provided for them.

We have seen no better report of medical inspection from anywhere than this. Few, indeed, can compare with it. We regret that we cannot quote *in extenso*, but one paragraph from Dr. Halley's report will command special interest.

"So many parents have visited me in the country towns, or have come to see me at the station, that I have arranged, whenever possible, to hold a mothers' meeting after school, an invitation being sent to the mothers of the children. In several cases where there was no mother, the fathers have come. These meetings have been most interesting. A short talk on general matters of health is given; for example, on infectious diseases, should there be any recent cases in the district, or some particular trouble, such as marked adenoids noticed in the school.

Each mother is then told privately, if there should be anything requiring attention in her child. Many mothers come long distances. At one school three walked over four miles; many came two or three miles, often carrying a baby that could not be left at home. Should a mother be unable to be present, a friend is often detailed to find out about the children. Thirty of these meetings have been held, with an average of over forty present, thus a large number of the women of the State have been reached and taught a few lessons on hygiene, as, for example, how to limit the spread of infectious diseases, and on the feeding and training of the children. These meetings are also of use to let the parents know that there is a genuine interest in and wish for the welfare of the children of the State among the officers of the Department.

The Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the first of the month previous to publication.

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No. 3.

Editorials.

THE SITE OF THE NEW TORONTO GENERAL HOSPITAL

ALREADY the work of tearing down the buildings on the site where the new Toronto General Hospital is to be erected is completed. The ground will be plowed and subsequently treated with disinfectants. Afterwards the site will be fenced in. In the spring of 1910, the work of preparing the foundations of the new buildings will proceed.

All arrangements between the University of Toronto and the Toronto General Hospital have been completed. The University adds \$400,000 to the \$300,000 given by it to the hospital three years ago, when an understanding was arrived at that the new hospital was to be erected on the present site. In all, the hospital gets from the University \$700,000, in consideration of part of the hospital site for the erection of pathological and other buildings, and certain rights regarding the appointments of professors of the University to the staff of the hospital.

It is provided, in the agreement between the Toronto General Hospital and the University of Toronto, that the chief professors, or heads of the departments of the Faculty of Medicine of the University, shall be, *ex-officio*, heads of the services in the new hospital. All other appointments on the hospital staff are to be made by the hospital trustees, on the recommendation only of a joint committee, consisting of eight members, four appointed by the University and four by the hospital.

This last provision will not really be a new feature, as the present heads of departments in the Toronto General Hospital are professors in the Faculty of Medicine of the University of Toronto.

It is understood, that the hospital's finances towards the new building stand, in rough figures, as follows: Subscriptions, \$1,300,000; University of Toronto, forty years debentures, \$300,000; value of the present old site, \$300,000; total, \$1,900,000. The cost is estimated at \$2,200,000. This leaves a balance of \$300,000, which the trustees of the hospital hope to raise by increased subscriptions and from other sources.

J. J. C.

DO WE EAT TOO MUCH ?

WERE one to answer the question at the head of this editorial, one would say that, judging from the display of knife and fork at medical banquets, doctors sometimes do exceed a safe gastronomic limit, though, ordinarily, they are more abstemious than gluttonous.

People of middle-age, and some of us have passed the fiftieth milestone—it would be unwise to acknowledge the sixtieth—must practise self-restraint at the table. When the molars drop out, or have been pulled out, why bother the stomach with much solid

food? Even if teeth, artificial or natural, enable one to masticate food properly, it is just as well to remember what *The Lancet* says: "As the fire of life burns less fiercely, and the output of energy is smaller, the fuel supplied should be so reduced that the system may not be clogged with ashes and half-burned cinders, whereby the activity of the whole machine is, from time to time, impaired, and may even be permanently arrested."

A healthy man of sixty should rise at 6 a.m., dress, and take some light exercise, or do some work in the open air—enough to moisten his brow and make him feel that he can breakfast on shredded wheat, with milk, toast and buttermilk, without asking for marmalade to stimulate his appetite. He should take exercise, walk, or do some work sufficient to entitle him to take soup, roast meat, vegetables, and seasonable fruit at noon. If his intellectual work is most satisfactorily done in the forenoon, let him take his walk, his golf, his drive, or what not, during the afternoon, keeping in the open air as much as possible.

At 6 p.m. a sexagenarian who follows such a regimen will easily relish two eggs, bread and butter, fresh fruit and buttermilk; a lettuce salad, with mayonnaise sauce, will help him to rest from 10 p.m. to 6 a.m., unless the prostate should be importunate.

Should a sexagenarian loaf in bed till 8 a.m., breakfast on meat and eggs which he has not earned; should he dine fully, dawdling about during the day, or reading or working at the desk, spending a long time at the supper table, he will suffer from a loaded colon and its attendant ills; will require a good many purgatives, or, if he has the cash and the leisure, may spend a season at Vichy or Carlsbad, in order to restore his shattered digestive organs.

J. J. C.

NOTIFICATION OF INSANITY, AND VOLUNTARY PATIENTS IN HOSPITALS FOR THE INSANE

OWING to the dominating influence of heredity in shaping the destiny of the insane, a lessened interest and ambition, a conviction of the uselessness of effort to control inevitable and hopeless conditions impresses even sanguine psychiatrists. Such a line of thought naturally inhibits therapeutic effort, and favors a let-alone policy in the treatment of the insane. But this would not accurately

indicate the course of action followed by the psychiatrist of to-day, who aims at ascertaining in what respects the insane patient is out of adjustment with his environment and his own hygiene; to learn what facts in the earlier history bear upon his actual mental status; from what early experiences erroneous deductions have been made, that initiated alarm, worry, despair or wrong habits of thought.

The chief cause of mental aberration is not necessarily in the brain tissue. Many insanities are due to disease of the arteries, including the arteries of the brain; to toxemia from defective elimination of waste products, and perhaps to lowering of the quality of the blood. Many other insanities are due to disordered function following stress or strain; and to improper and unhygienic use of the mind. Palliation or removal of these hurtful conditions has resulted in the emergence of some insane patients from their abnormal mental state, in spite of existing hereditary influence.

The increase of patients in Ontario hospitals for the insane is considerable. On December 1st, 1907, there were 5,315 insane persons and 775 idiots and feeble-minded persons. The net increase for the year was 118. On December 31st, 1908, there were 5,492 insane persons and 776 idiots and feeble-minded persons. The net increase for the year was 178.

Enlargements of the Provincial hospitals for the insane have been required, yet from all of them, more particularly, however, the central and western hospitals, the demands are for more rooms and more attendants. The present policy in regard to the insane is to build catch-basins, larger and larger in size, and to fill these basins full to overflowing. Some psychiatrists believe that a better policy would be to ascertain and remove the causes of insanity, before commitment is done in the usual way. Professor Adolf Meyer, Director of the Psychiatric Institute of the New York Hospitals for the Insane, suggests that a procedure, resembling the reporting of contagious diseases be adopted. For the safety of the individual and the community, isolated and special treatment should be secured. Dr. Meyer thinks, that insanity should be notifiable to a medical health officer, who should have power to act promptly, at an early stage of the disease, and to quarantine an insane patient under proper care. Such a disposal of cases would tend to lessen improper and insufficient treatment, which is some-

times accorded to insane patients prior to commitment. The incipient case would also be reached at an early stage, and perhaps prevented from gliding down the slope into a deeper gulf.

The State Commissioner in Lunacy, of New York State, at the 1908 session of the Legislature, introduced a bill, so amending the Insanity Law as to provide for admission into all the State Hospitals (except those for criminals) of voluntary patients, upon their written application, pursuant to the regulations of the Commission. The Commission has also ruled, that no alcoholic patient, without definite psychosis, and no cases of drug habit, without psychosis, shall be thus admitted. This bill amending the statute, so as to permit the reception of voluntary patients into New York State asylums has been signed by the Governor of that State. It is hoped that the results of the application of the new law in New York State will be as favorable as those recorded in other States of the American Republic. Thus, admission of voluntary patients into asylums for the insane has proved a success in Pennsylvania, Illinois, and especially in Massachusetts. In McLean Hospital, Waverly, Mass., about 35 per cent. of the patients were admitted as voluntary patients, and the percentage of recoveries averages nearly 29.

Would it not be a good thing to pass a similar law in Ontario? It is not a mere experiment; but a tried method of preventing continued insanity and finding an early relief for it.

Besides, it would give great opportunities to psychiatrists to ascertain the real causes of the noted increase of insanity; to teach the people what dangers to avoid; to ask for laws restricting demoralizing influences, and, while there is still easy access to the patient's confidence and to his real thoughts, to adjust him to his environment, explain and harmonize his troubles, and relieve his physical disorders.

J. J. C.

THE NEW WESTERN HOSPITAL

THROUGH information kindly given us by Dr. J. Price-Brown, Chairman of the Building Committee of the new Western Hospital, and from a report given *The Toronto World* by Dr. John Ferguson, we are enabled to place before our readers some data respect-

ing the past history of the old Western Hospital, and a brief description of the new one.

The Western Hospital has been in existence about twelve years. The site is an excellent one, situated on Bathurst Street, and covers about four and one-half acres of ground. For some years the main building upon it was the old MacDonald Homestead. But as this provided small accommodation for patients, tents were resorted to; and these have been used from then until now for this purpose—open on all sides during the summer season; closed and heated by steam heat in winter.

Several years after the inauguration of the Hospital the first new brick building was erected. It is termed the "Annex," the basement being devoted to laundry work; the first storey to semi-private male patients; the second to semi-private female patients.

Subsequently another brick building, for private patients, was erected, and since then two pairs of brick houses on Rosebery Avenue were purchased for direct use for maternity cases and to serve as Nurses' Home. These purchases, together with the buying of several adjoining lots, enabled the Board of Governors of the Hospital to complete the square facing Bathurst Street and extending from Nassau Street to Rosebery Avenue.

More recently still, the tents having done their full duty, in order to accommodate the steadily increasing number of patients, new and up-to-date buildings have become an imperative necessity.

Fortunately the justice of the city in granting \$50,000 each to four of the city hospitals came at the opportune moment. The share obtained by the Western Hospital, aided by the generous donation of \$25,000 by one of the members of the Board of Governors, will now enable them to put up the south wing of a large general hospital, the plan of which has been carefully and elaborately planned by the Building Committee, who have the matter in charge. While the Board of Governors expect to add the Administration Building and the north wing in the near future to the portion they have already undertaken to erect, the immediate plan will include corridors connecting all the present hospital buildings, together with the erection of a general furnace-house for the heating of the whole.

The plans, which were drawn by Mr. E. J. Lennox, architect, show an ideal building for its purpose.

It will be 333 feet 8 inches long, parallel with and facing Bathurst Street, and 90 feet from the road. The building now there will be left for the present and the addition will be in front of it. In width it will be 36 feet. The control or administrative portion will be a little wider, with an extra storey, which will be used as the caretaker's apartments and storerooms. In height it will be three storeys, counting the basement, which will be only two feet underground, not including the caretaker's addition.

The present building will be connected by a passage, which will be used as a "sun room" for convalescent patients. The north wing of the basement will be for out-patients and will be equipped with an emergency ward.

The north wing will be for male patients and the south for female ones. A dining room, recreation room, and lecture room for the nurses will also be in the basement. The heating apparatus will change the air throughout the whole structure every 15 minutes.

On the first floor will be the general offices, in the administrative section. The wings will be divided into 36 private wards. A patients' sitting-room will face Bathurst Street, with verandahs at each end for convalescents.

The second floor will have a library and accommodation for four house surgeons and the superintendents. The wings will have cots for 48 patients, and the wards will be public. Two rooms at either end will be sound-proof, and will be used for refractory or noisy patients. There will be a verandah at each end, and lounging rooms. Well-lighted operating rooms will also be on this floor, as well as an X-ray room and anesthetic rooms.

Solid brick, with stone trimmings, will be used, and the central part will be of stone to the height of one storey. The building will be absolutely fireproof, with terra cotta floors and steel framework. All the wards will be free from columns, giving more room and a clear view.

In the future the old building will probably be torn down and a replica of the new building put in its place, 80 feet to the east.

A permit has been issued for the building, which is to cost \$200,000.

It is expected that the south wing, which is being proceeded with, will be roofed by October and ready for occupation by February 1st next. Probably the whole structure will be completed by the latter part of 1910.

J. J. C.

EDITORIAL NOTES.

Speech or Stage Fright.—Speech or stage fright—a neurotic symptom founded on fear—a sudden irruption of a sense of incompetency—a manifestation of mental, nervous or physical incapacity is the bane of public speakers and performers. One cannot say that speech fright is frequently observable at medical meetings, the probable reasons being that the debaters have a good grip of the subject under discussion and do not, therefore, suffer from fright or lack of confidence. At medical dinners speechmaking is not in evidence, and whether it is that they lack confidence in their oratorical power, or have made no preparation, medicos do not care to put themselves in a position to be attacked by post-prandial speech fright. In fact, if the intellectual capacity of the doctor were to be gauged by his unreadiness to speak, even on a medical subject, at a medical dinner, he would be put down as an intellectual mediocrity. Writing on "Speech Fright" in *B. M. J.*, June 26, '09, J. Foster Palmer has the following: "There is no more certain sign of coming success in oratory than speech fright, which comes short of actual brain collapse. The state of nervous tension which precedes a vocal effort is a certain sign of a mental energy, that will appeal to others. The intensity of feeling which produces speech fright is identical with that, which impresses an audience. Probably no one, who has not suffered from speech fright, has ever made a speech really worth listening to. This fact is well known to teachers of singing and elocution. Nothing pleases them better than nervousness before a first performance."

Opium is a favorite drug for the relief of speech or stage fright, and the following draught: Spt. am. Co., 60 minims; tinct. opii., 10 minims; camphor water, 1 oz., taken a quarter of an hour before she went on to play the piano at a concert, is said to have steadied a frightened performer so thoroughly, that she was not in the least nervous throughout the evening.

A slower, but more scientific, and, certainly, a safer way of preventing speech fright, stage fright or piano fright, is that kind of training, which makes for a thorough grip of the subject to be dealt with before an audience. Many a good speaker or performer is intensely nervous just before a performance begins; but, if the

previous preparation has been adequate, any kind of diversion—even frivolous conversation—is worth a trial before resorting to an opiate.

The University of Toronto.—Some changes have been made in the staff of the medical department of the University of Toronto. As already noticed in this magazine, the chair of physiology has been divided, Professor A. B. Macallum having taken that of physiological chemistry, while Dr. Brodie, formerly Superintendent of the Brown Institution in the University of London, was appointed to the professorship of physiology, the duties of which he took up last winter.

Professor J. J. Mackenzie remains professor of pathology and bacteriology, and Dr. J. B. Leathes, who has been in charge of the laboratory of pathological chemistry at the Lister Institution, will take up the duties of the chair of pathological chemistry during the coming session.

The medical building of the University is to be enlarged to provide additional accommodation for the department of anatomy, over which Professor Playfair McMurrich presides.

The buildings of the University Library are also to be enlarged, and space will be provided for nearly double the number of books, and offering to each professor a private room, as well as seminary rooms for tutorial classes. It has also been resolved to build a large archaeological museum, which will be provincial in character, on a site within the grounds of the University, and under its control.

Commercial Cream of Tartar.—Bulletin No. 180 (Laboratory of the Inland Revenue Department, Ottawa) gives a report on 225 samples of commercial cream of tartar, collected in Canada, January, 1909. Genuine, 80 per cent; adulterated, 18.22 per cent.; doubtful, 1.78 per cent. In his report of September, 1905 (Bulletin No. 109), the chief analyst expresses himself as follows:

Ordinary commercial cream of tartar is ground argols, which have been more or less purified. Argols invariably contain both tartrate and sulphate of lime, and those lime salts appear in the commercial cream of tartar. They result in part from being natural to the wine, but chiefly from the so-called “plastering” of the wine. The manufacturer of cream of tartar is not respon-

sible for their presence; but, inasmuch as they reduce the value of the article for the purposes of breadmaking, their presence is a distinct disadvantage to the purchaser. It follows that genuine samples of cream of tartar may differ greatly in value. Samples containing 97 per cent. of bi-tartrate of potash are worth, pound for pound, 12 per cent. more than samples containing only 85 per cent. Purified cream of tartar is made from argols which have been subjected to processes of solution and recrystallization, by which most of the lime salts are got rid of."

So far the percentage of lime salts permissible in cream of tartar has not been established.

Cardiopaths and Extra Systoles.—G. W. Norris (*Am. Jour. Med. Sci.*, July, 1908), discussing the forms of cardiac arrhythmia, remarks that extra systoles are of frequent occurrence in cardiopaths. We cannot, however, draw any definite deductions by the mere fact of their presence, as to the stage, character or extent of the heart lesion. Productive factors are present in great numbers in such cases, that is, dilatation, inflammation, local cardiac anemia, over-exertion, etc. The worst cases of heart disease often terminate fatally without having at any time exhibited extra systoles. In reference to this subject, Wenkebach concludes that clinicians ought not to attach too much significance to extra systoles in themselves, and yet they ought to consider it worth while to examine every case and determine whether a cardiac lesion is present or not, whether there are any conditions (and they must be looked for outside of the heart) present, which could account, directly or indirectly, for the presence of the extra systoles. Among the extra-cardiac group, toxic and reflex cases are found. They occur as a result of the use of tobacco, alcohol, tea and coffee, as well as in cases of gastro-intestinal disturbances, intestinal parasites, etc. Extra systoles are also commonly seen during convalescence from typhoid fever, diphtheria, pneumonia, and other infectious fevers.

The Significance of the Red Ring in Hiller's Test.—R. H. M. Dawbarn, on "*Archives of Diagnoses*," Vol. 2, No. 2, calls attention to a sign sometimes found in the urine—the presence of a red line, of varying width, at the junction of the nitric acid and the urine. This line is not so sharply defined as the white line.

which indicates albumen, and if both lines are found, the red one is situated above the white one.

He thinks that the red line indicates that the patient is a "walking cesspool." The liver being unable to neutralize the toxins reaching it, most commonly from the feces in the intestines, poisoning of the body of the patient and lowered vitality result.

This sign has also been found in the urine of women suffering from subacute or chronic pelvic peritonitis, or pyo-sa epinx, with more or less of excrementitious material (mainly pus) steadily poisoning their blood.

Legal Regulation of Marriage.—In the August number of this magazine, we referred editorially to Prof. Ramsay Wright's lecture on the guarding of marriage, in order to prevent the evils of a bad heredity. We said that parents should look after the interests of their children, and be careful in advising them as to the selection of a suitable life partner.

It is quite true, that the most unselfish advice and the most scrupulous care are often expended in vain in trying to guard against a misalliance. This, however, is not a reason why parents should not persevere in endeavoring to secure the interests of their children, and in providing for a sound posterity.

Another feature of marriage calls for investigation by the State, e'er the nuptial knot be tied. The marriage of infected men to innocent women is an outrage, but is hard to prevent. No state, no board of health, no legislature, no body of physicians has taken steps to prevent it. Legal prevention will come in time, when education has so permeated the mass of mankind, that a physician's certificate shall be a prerequisite to the marriage license.

J. J. C.

PERSONALS.

Dr. Cassidy's office will be at suite 44, 2 Bloor Street East, over the Traders' Bank, corner of Bloor Street East and Yonge Street, during the remodelling of his residence. Office hours, 9.30 a.m., 11.30 a.m., 2 p.m., 4.30 p.m. Telephone, North 544.

News of the Month.

CANCER RESEARCH

THE second report of the Collis P. Huntington Fund for Cancer Research has been published. It contains seventeen papers, principally laboratory studies.

The workers have carried on their investigations with an open mind, no matter whether they lean to the intrinsic or extrinsic origin of cancer.

Drs. Beebe and Tracy, studying the effect of bacterial toxins on sarcoma in dogs, have shown that such tumors will entirely disappear, not only under the combined toxins, but under the injections of the B. prodigiosus alone.

Drs. Beebe and Crile have proven that the blood from a dog which has spontaneously recovered from sarcoma, when transfused into an animal with a rapidly growing sarcoma, has the power of producing immediate retrogression of the tumor, which, in nearly all cases, has gone on to entire disappearance.

The above is from a report of William B. Coley, in the twenty-fourth annual report of the General Memorial Hospital for the Treatment of Cancer and Allied Diseases, New York.

American Hospital Association.—Eleventh Annual Conference of the American Hospital Association will be held at the New Willard Hotel, Washington, D.C., September, 21, 22, 23, 24, 1909.

Physicians' Notice.—The J. F. Hartz Co., Limited, Physicians' Supplies, are now located in their new and larger premises, 406-408 Yonge Street, three doors north of Hayter Street. Phones Main 3928, 7554, 7555.

Provincial Exhibits.—All the Provinces will be in line with exhibits in the Provinces Building at the Canadian National Exhibition this year. Each Provincial Government is at work on a display that will do justice to its territory, and the gold and fruit of British Columbia, the golden grain of the prairies from Alberta, Saskatchewan, and Manitoba, the various products and minerals of Ontario, right down to the best coal and farm products of Nova Scotia and New Brunswick, will form one of the many features that make the Fair truly National in character.

Bombay Medical Congress Exhibition, 1909.—It is officially notified that the exhibit of Messrs. Burroughs, Wellcome & Co., at the Bombay Medical Congress, held in February last, has received the highest award.

American Society of Obstetricians and Gynecologists.—The next meeting of the American Association of Obstetricians and Gynecologists will be held at Fort Wayne, Ind., September 21, 22, 23, under the Presidency of Wm. H. Humiston.

Regiment of Volunteers.—It is probable that an entire regiment of volunteers will be organized in the near future from the University of Toronto. It is expected that a \$100,000 addition will soon be made to the University gymnasium. The Governors of the University have also decided to proceed at once with the erection of the new Provincial Museum, which, it is said, will be without a peer on the continent. The building, which will cost \$300,000, will be erected on the southwest corner of Bloor and Avenue Road.

Proper Care of Milk to be Demonstrated at the Canadian National.—The educational features in connection with the Dairy department of the Canadian National Exhibition, Toronto, promises to be of unusual interest this year, not only to farmers, but to consumers of milk in cities and towns as well. The demonstration work and lectures in the dairy amphitheatre will be under the immediate charge of Mr. Geo. A. Putnam, director of dairy instructions for the Province, and the Dominion Department will also furnish a man to give some definite instruction along the cow-testing line. The proper care and handling of milk will be one of the subjects dealt with, and it will be accompanied by demonstrations of milk-testing as well as charts showing the value of cow-testing associations.

The Physician's Library.

BOOK REVIEWS

The Theory of Ions. A Consideration of Its Place in Biology and Therapeutics. By WILLIAM TIBBLES, M.D.; author of "Food and Hygiene," etc. New York: Rebman Company, 1123 Broadway. 1909. Price \$1.00.

This little book of 128 pages deals with many interesting theories relating to biology. Atoms are the smallest particles of matter which can take part in a chemical reaction. Under certain circumstances, the atoms of a molecule become dissociated; they are then charged with electricity and move about. Such dissociated atoms are called ions.

Theories are built up with the view of explaining the action and function of ions in biology, life, living matter, oxidation and immunity. These theories, while they may not be conclusive, or lead to a final solution of the mysteries that surround such subjects as matter, energy, force and so on; yet they tend to enlarge our ideas regarding such things and increase our interest in these important and intensely interesting subjects. No one will ever regret spending a few hours over this delightfully interesting book.

A. E.

Emergency Surgery. For the General Practitioner. By JOHN W. SLUSS, A.M., M.D., Professor of Anatomy, Indiana University School of Medicine; formerly Professor of Anatomy and Clinical Surgery, Medical College of Indiana; Surgeon to the Indianapolis City Hospital; Surgeon to the City Dispensary; member of the National Society of Military Surgeons. With 584 illustrations, some of which are printed in colors. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1908.

This surgery is not a text-book for students, although every student might well have it, and it would be of use to him, but it is an eminently practical surgery for the general practitioner, a surgery that will always be ready in the general practitioner's hand to bring to his mind at once and in the most definite form that which he requires. There is no space wasted on the opinions of a number of writers, although the best writers of the present day

have evidently been constantly before Dr. Sluss while writing this book.

It is very well illustrated, written in a clear style, easy to read, and carrying in every word of it the conviction to the reader's mind that the author is telling him exactly what he wants to know. No man who has the possibility of being asked to do average surgical work in his practice can very well afford to be without this in his library. The book is of a size and a shape that is easily carried in the pocket, and being bound in soft leather, is never awkward to handle.

A. J. J.

Writing the Short Story. By J. BERG. ESENWEIN. Publishers: Hinds, Noble & Eldredge, West Fiftieth St., New York.

This book embodies "the practical principles of short story structure as recognized by American and British magazine editors." Half the people nowadays read magazines half the time and crave for the short story, even newspaper accounts of occurrences must savor of a story, or the public vote them dreary reading. How necessary then that all who indulge in or work over any form of journalism, as we inclusively call it nowadays, should carefully study the construction and rules of story writing from the pen of the gifted editor of Lippincott's magazine.

W. A. Y.

A Synopsis of Surgery. By ERNEST W. HEY GROVES, M.S., M.D., B.Sc. (Lond.), F.R.C.S. (Eng.); Assistant Surgeon to the Bristol General Hospital; Surgeon to the Cossham Hospital; Senior Demonstrator of Anatomy at the University College, Bristol. Bristol: John Wright & Sons, Ltd. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.

Nowadays students are almost staggered at the amount of reading they find necessary to get all the essential points on any surgical topic. The author of this small volume has attempted to make an epitome of the salient facts in surgical practice, and to place these facts in such a manner that they may most easily and rapidly be referred to or revised.

The matter has been compiled almost entirely from notes made by the author in preparing students for examinations.

The general practitioner will find the work of very great value, in that it permits him, in a short time, to get the pith, as it were, of the subject he is considering.

The student will find it practically a complete notebook on surgery, and one invaluable during not only his pre-examination stage, but throughout his entire practice.

P. P. G.

Practical Guide to the Diseases of the Throat, Nose, and Ear. For Senior Students and Junior Practitioners. By WM. LAMB, M.D., C.M., M.R.C.P.; Honorary Surgeon to the Birmingham Ear and Throat Hospital. Pp. xvi., 322. 55 illustrations and 2 plates. London: Bailliere, Tindall & Cox. 7s 6d.

This is the second edition of the author's little guide, published in 1904. The title has been somewhat modified, and additional notes have been added as to treatment.

This is one of the most valuable of the smaller books which have appeared in such numbers in recent years, in fact, one is surprised that so much information can be given in such small space.

P. P. G.

The Principles of Pharmacy. By HENRY V. ARNY, Ph.G., Ph.D.; Professor of Pharmacy at the Cleveland School of Pharmacy, Pharmacy Department of Western Reserve University. Octavo of 1,175 pages, with 246 illustrations, mostly original. Philadelphia and London: W. B. Saunders Company. 1909. Cloth, \$5.00 net; half-morocco, \$6.50 net. Canadian Agents: The J. F. Hartz Company, Ltd.

There are so many works on the subject at present that it is almost impossible to follow each of them. The author here has undoubtedly taken great pains to perfect a work that will be generally acceptable to physicians and likewise to practical pharmacists. The book consists of seven parts.

Part I. deals with pharmaceutical processes.

Part II. with galenical preparations.

Part III. with inorganic chemicals.

Part IV. with organic chemicals.

Part V. with chemical testing.

Part VI. with prescriptions.

Part VII. with laboratory work.

A. J. H.

On the Poison of Venomous Snakes, and the Methods of Preventing Death From Their Bite. Reprinted Papers by the late Sir Joseph Fayrer, Bt. K.C.S.I., M.D., F.R.C.P., F.R.S.; Sir Lauder Brunton, Bt. LL.D., M.D., F.R.C.P., F.R.S.; and Major Leonard Rogers, I.M.S., M.S., F.R.C.P., F.R.C.S. London: MacMillan & Co., Limited, St. Marten's Street.

These papers are reprints covering the work done by the late Sir Joseph Fayrer, Sir Lauder Brunton and Major Rogers in India some years ago.

The experiments with the various snake poisons are described, and make very interesting reading. Permanganate of potassium

was found, when mixed with the poison, or injected beside it within a few minutes after the introduction of the venom, to either save the life of the animal; or if the dose of poison was too large for a small animal, like a rabbit or cat, to at least greatly prolong life.

Sir Lauder Brunton invented a small instrument, with a lancet and cup for permanganate crystals, to be carried by those in danger of snake bites. The lancet to lay open freely the infected area, and the crystals to be rubbed freely into the wounds.

While we in Canada have little or no danger from poisonous snakes, to intending residents where such danger exists, this work will prove of great interest.

W. J. W.

Treatment of Consumption. By W. CAMAC WILLIAMSON, B.A. Syd., M.D., Lond., F.R.C.P.; Lecturer in Medicine. University of Sydney. Pp. 266, viii. Toronto: The MacMillan Co. of Canada, Limited. Price, \$3.00 net.

In many ways we have found this a very interesting work, dealing principally with tuberculin in treatment of pulmonary tuberculosis. The author is enthusiastic in his use of tuberculin and gives condensed records of patients treated since 1902, records which speak volumes for the value of this method of treatment, and should increase the general interest in its use. We can recommend the chapter on tuberculin to those who are unconvinced as to its efficacy. The chapter on early diagnosis is not well arranged; there is no index to the work, and in looking for the index the reviewer must confess that his first impression of the author was not of the best when he found on the last pages of the work the stenographic report of an address by the author, the vote of thanks, with here and there (applause) interlarded. The book utterly fails as a guide to the use of tuberculin. The author glories in his own success in its use, but does not deign to reveal the dosage for others to follow.

J. H. E.

Immunity and Specific Therapy. By W. D'ESTE EMERY, M.D., B.Sc. (Lond.); Clinical Pathologist to King College Hospital and Pathologist to the Children's Hospital, Paddington Green; formerly Assistant Bacteriologist to the Royal College of Physicians and Surgeons, and Sometime Lecturer on Pathology and Bacteriology in the University of Birmingham. With illustrations. London: H. K. Lewis, 136 Gower Street, W.C. 1909.

This will undoubtedly prove an exceedingly useful book for the practitioner of studious habits, as it will serve to keep him refreshed and up-to-date in this most useful and necessary work. As the writer candidly says, "The factors in many of the problems of immunity are so complex that our knowledge of the subject grows

and alters so rapidly that it is quite impossible to be dogmatic at the present time." This work is deserving of careful study.

A. J. H.

Tuberculosis, a Preventable and Curable Disease. By S. A. KNOPF, M.D., Professor of Phthisic Therapy, Post-Graduate Medical School and Hospital; Associate Director of Clinic for Pulmonary Diseases, Health Department, New York, etc., etc. 8vo, pp. 394, xxxii., 115 illustrations. New York: Moffat, Yard & Co. \$2.00 net, by mail \$2.20.

Dr. Knopf, whose German prize essay on "Tuberculosis a Disease of the Masses" has gone through many editions in over twenty languages, has now issued a larger and more comprehensive work on the same subject, written for the public as well as the profession. It is a book to place in the hand of the patient, his household, the physician, "for the legislator, for educators, teachers, for rich and poor."

Medicinal treatment is omitted, but out-of-door living is dealt with at length, there being many splendid illustrations of porches, pavilions and other devices. Plans of special houses for tuberculous patients are given. It is a book which should be in the hands of every physician for the instruction of his tuberculous families.

There are a number of typographical errors, which can be remedied in another edition, which should soon be needed.

We must take strong exception to Knopf's statement that pasteurization deteriorates milk. He must rectify this statement to be in accord with modern science.

J. H. E.

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Original Contributions.

CASE OF SEPTAL ABSCESS*

BY J. PRICE-BROWN, M.D., TORONTO.

HISTORY: Toward the end of January, Cecil S., age ten years, was struck on the nose by the head of a boy while at play, producing free hemorrhage, much swelling and pain. He had always breathed normally until the accident. After this, nasal breathing was almost impossible. The external swelling and pain gradually became less, while, according to the mother's account, the nasal stenosis increased.

At last, although not until the twenty-fifth day after the accident, the parents of the boy became alarmed, and consulted the family physician, who referred the case to me.

On examination, I found the septum very much distended on both sides. Although both were red, the right was a little paler in color than the left, and also a little fuller. On pressure, both sides of the bridge seemed to fluctuate a little. There was very little soreness; the skin was pallid, the system anemic, but otherwise the boy felt well.

Under cocaine anesthesia, I at once removed with a narrow knife a perpendicular ridge of septal cartilage from the right side, at the same time freely opening the abscess. Discharge of pus and blood was very free, the abscess extending backward as far as the vomeric union. The cavity was antiseptically treated, and the mucous membrane retained in position by a small absorbent cotton packing.

The following day, as the left side had not been relieved by the previous operation, I opened it freely. This was followed by

*Read before the Academy of Medicine, March 24, 1909.

profuse bleeding, but no pus. After the contusion subsided, a large ridge was discovered on the lower left border of the triangular cartilage, and several days later a portion of this was removed.

Improvement was uninterrupted. The two passages have healed and nasal respiration is normal again. There is still some curvature of the septum to the left—probably as the result of the injury—but it is not sufficiently marked to warrant further operative treatment.

Remarks.—1st. The fact that the development of the abscess was sub-acute instead of acute.

2nd. That in this fact lay the danger of delay in operating. It was not on account of pain or illness that the boy was sent for treatment, but simply for relief of the complete stenosis. From appearances, the abscess might have gone for another week before opening spontaneously, and in that week the triangular cartilage might have been destroyed, with depression of the septum as a result.

I know that the older writers do not refer to abscess of the septum as one of the causes of saddle-nose, but the modern writers do. Among these I might mention Kyle, Coakley and Richardson, all well-recognized authorities.

A FEW SALIENT POINTS IN THE SURGICAL TREATMENT OF GALL-STONE DISEASE*

BY C. F. MOORE, M.D., TORONTO.

MOST of the conclusions I have arrived at in my brief paper were forced upon me during the time I spent at the Mayo clinic, where I saw a large number of gallstone cases and had the good fortune of following them in the hospital after operation.

The customary preparation of the skin in abdominal cases seems unnecessarily lengthy, as well as being a tax on the nervous system of the average patient.

The measure adopted at the Mayo clinic is quite simple, and has been proved to be thoroughly effective. It consists of a purgative dose of castor oil early in the afternoon, a general bath, and the abdomen shaved the evening previous to the operation. On the following morning an enema is given; after its action the patient is placed on the operating table and is anesthetized while the abdominal cleansing is being carried out, which consists of washing thoroughly with soap and water, followed by a 1-2000 bichloride solution, Harrington's solution for half a minute, then 75% alcohol, when the surface is ready for the knife.

The usual protracted and frequent scrubbing has been abandoned, as it causes an increased blood supply to the skin and favors the development and growth of the skin bacillus, which never can be destroyed by germicides without damaging the skin.

Upon entering the peritoneal cavity through the usual incision, the field of operation, including the appendix, should be inspected, for there is about 10% of chronic cases of appendix trouble, gastric or duodenal ulcer and gallstone disease in which a diagnosis is extremely difficult, or even impossible to make without an exploratory incision.

It would appear that the gall bladder should never be removed, unless it has lost its function from some pathological cause.

There is a percentage of cases of chronic pancreatitis caused by gallstone infection, also others by infection from without the biliary tract. The treatment of the former class is a temporary diversion of bile by means of cholecystostomy, and of the latter, a permanent biliary drainage carried out by cholecystenterostomy, so if cholecystectomy be performed, as a routine measure, we lose the readiest and probably the best treatment of an existing or subsequently developed chronic pancreatic inflammation.

A very simple and efficient drainage tube for the gall bladder is made of a rubber tube surrounded by a few layers of iodoform

*Read before the Ontario Medical Association meeting, 1909.

gauze which is encased by rubber tissue. This is retained in position by two purse-string sutures of plain catgut in the walls of the bladder, taking a bite in the gauze and tied sufficiently tight to constrict the outer materials down to the rubber tube. In a week or ten days this tube is easily removed, and the inverted walls of the gall bladder fall together with the serous surfaces in apposition, when obliteration of the opening soon occurs.

Some surgeons stitch the fundus of the gall bladder to the peritoneum, but it appears to me better to allow this organ to fall into its normal anatomical position, when, after complete recovery, it will empty itself more readily by its physiological muscular contraction. In hollow organs, such as the stomach, urinary bladder and gall bladder, the neck is always placed at a higher level than the base, so that the contents do not constantly come into contact with the sphincter muscle to excite it to undue and prolonged contraction in order to over-balance the muscular action of the walls of the organ, which never empties itself by gravity. When the fundus is anchored complete and adequate muscular force is greatly interfered with, leaving a residual fluid that will cause this tonic contraction of the sphincter, above mentioned, with obvious results.

In common duct cases, in which calculi are milked into the supra-duodenal portion and removed through an incision at this point, an exploration of both hepatic and common ducts is made by the finger and gallstone scoop for hidden conerctions, followed by a dilatation of the conical common duct by passing a gallstone probe and scoops through into the duodenum, thus relieving the duct that may be eneroached upon by a thickened head of a pancreas, as well as favoring the escape of other calculi that may subsequently deseend from the liver.

A plain rubber drainage tube, pierced by sterile catgut an inch and a half from the end is, after ascertaining its poteny, passed up the hepatic duct for this distance and sutured in position, the remainder of the duct opening being closed by plain catgut. With a large split-rubber tube containing iodoform gauze placed to receive the duct-tube in a trough-like manner, and a similar one in Morrison's pouch, the abdominal incision is ready to be closed.

The period of disability, it appears, may safely be reduced to seven or ten days, as post-operative hernia in the upper abdomen is almost an unknown sequela. When a freshly-sutured abdominal incision withstands the occasional enormous strain induced by vomiting, etc., it is not unreasonable to assume that sear tissue a week old is quite capable of resisting the much lighter tension put upon it while the patient is in the sitting or erect position.

91 Bellevue Avenue, Toronto.

THE URINARY BLADDER AS A COMPLICATING FACTOR IN OPERATIONS FOR INGUINAL AND FEMORAL HERNIA

BY W. J. HUNTER EMERY, M.D., TORONTO.

It is not the intention of the writer in this brief paper to consider at all the question of hernia of the urinary bladder proper, as this is fully dealt with in our ordinary text-books, but rather to direct attention to a somewhat neglected subject, viz., a class of cases in which some portion of the bladder wall is dragged into or through the hernial opening attached to the parietal peritoneum forming the hernial sac. When one considers the anatomical relations existing between the reflection of parietal peritoneum which cover the fundus and a portion of the anterior and posterior walls of the bladder, with that covering the hernial openings under consideration, one sees how readily the dragging upon the parietal peritoneum in the region concerned incident to the formation of the hernial sac may involve a portion of the wall of the bladder.

My attention was first drawn forcibly to this subject some eight years ago, when in a single week I saw two bladders opened by two different operators, while opening what was taken to be the hernia sac. In both of these cases the conditions were recognized at once, the wound in the bladder repaired, and no harm resulted to the patient in either case.

Two recent cases will serve to illustrate the particular class of cases which it is the object of this paper to consider.

Case 1.—About three months ago I was called to see in consultation a woman, aged 35, upon whom I had operated for radical cure of inguinal hernia on the left side some six years ago. I now found her suffering from a strangulated femoral hernia on the right side. I had her removed at once to Grace Hospital, where immediate operation was made; the sac was opened, contents returned and sac isolated for resection, when I noticed that the sac wall upon the inner side seemed perceptibly thicker than upon the outer side. I immediately thought of the possibility of bladder complication, but could not make out such to be the case by ordinary methods of inspection or digital examination. Not feeling fully satisfied, however, I passed a medium-sized male sound into the bladder, and this very readily passed up the side of sac for a distance of an inch and a half beyond the place selected for excision. Needless to say, a different point of excision was selected and all went well with the patient.

Case 2.—Within a week after the operation just cited I was asked by another surgeon to assist him in an operation for radical

*Read before the Ontario Medical Association meeting, 1909.

cure of combined femoral and inguinal hernia on the same side in a woman about thirty.

The usual incision for inguinal hernia was made and the sac isolated and opened. The operator's finger was passed into the femoral sac through this opening, which was also drawn up so that the two sacs then presented the appearance of the diverging limbs of the letter Y.

When all was in readiness to ligate and excise, I drew the attention of the operator to a thickened portion of the wall of the inguinal sac, and in this case also careful examination failed to determine the true nature of the structure. Previous experience, however, had made me suspicious, and I asked permission to pass a sound into the bladder, which being done passed readily up into the suspected area at least an inch beyond line naturally chosen for resection.

In order to emphasize the fact of how easily such a condition may fail of recognition, I may mention that the operator in this case was a recognized anatomist.

As the chief object of this paper is to direct the attention of the profession to this important complication and elicit from the members present a free discussion of the same, I offer no apology for its brevity.

IN RESUMÉ.

Three points which I desire to emphasize in connection with this subject are:

- 1st. The possible frequency of occurrence of this complication.
- 2nd. The readiness with which it may be overlooked, the passage of the sound into the bladder being the only positive means of diagnosis; and
- 3rd. The possibility of excision of small portion of bladder wall, with the hernial sac not being recognized at time of operation, with probable fatal consequences.

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• • *Selected Articles.* • •

THE HUNTERIAN ORATION ON JOHN HUNTER AS A
‘PHILOSOPHER’*

BY HENRY MORRIS, M.A., M.B. (LOND.), F.R.C.S. (ENG.),
Consulting Surgeon to Middlesex Hospital

May it please your Royal Highnesses.

Mr. Vice-President, your Grace, my Lords, Ladies, and Gentlemen,—My first duty is to request your Royal Highnesses to accept the grateful and respectful thanks of this College, and the surgical profession of England which this College represents, for the great favor you do us by honoring the memory of John Hunter, whose inheritors we are, by your presence here to-day. We shall ever remember with great pride that you, Sir, have deigned to accept the diploma and sign the roll of the Honorary Fellowship of the College, and the graciousness of this act has been deeply accentuated by its having been performed in the presence of Her Royal Highness the Princess of Wales.

I will also venture to add that your Royal Highnesses' visits of sympathy and compassion, such as those of the last few days, to several of the London hospitals, visits which give so much gratification and delight to the patients and so much countenance and encouragement to the management and staffs of the hospitals, tend to qualify you, Sir, for the diploma you have to-day received; for in the noblest spirit and in the best sense of the words you have thus been engaged in that most essential part of the surgical curriculum known as “walking the hospitals.”

We are met in memory of John Hunter, who was born 181 years ago yesterday, who died on Oct. 16th, 1793, and is interred in Westminster Abbey.

Those who founded this oration designed that it should be expressive of the merits not only of the said John Hunter, but also of such persons deceased since the delivery of the last oration whose labors have contributed to the improvement or extension of surgical science.

Two men of remarkably strong character—namely, Sir Joseph Fayrer, Bart., K.C.S.I., LL.D., F.R.S., and Mr. Timothy Holmes—died in 1907. The former, a fellow of this College, was distinguished for his public and private services in India and at home,

*Delivered at the Royal College of Surgeons of England on February 15th, 1909, in the presence of Their Royal Highness the Prince and Princess of Wales.

for the sound good sense of his teaching and practice, and for his standard work on the poisonous snakes of India. Mr. Holmes was noted for his scholarship and extensive learning, for the eloquence of his spoken and the pungency of his written language, and for his services in various capacities in connection with this College.

In 1908 death removed three others—namely, Mr. William Allingham, Mr. Reginald Harrison, and Sir Alfred Cooper. All three were men well known by their words and writings in their respective fields of surgery, and the last two will be remembered by those who knew them personally for their exceptionally genial characters and lovable natures. Mr. Reginald Harrison and Sir Alfred Cooper, like Mr. Holmes, were Vice-Presidents and members of the Council. Mr. William Allingham likewise had served for a term of years as a member of the Council.

By the death of Professor Charles Steward, LL.D., F.R.S., who was conservator of the Hunterian Museum for 23 years and who died in office in 1907, science lost a distinguished physiologist and this College a most able officer, a skilful draughtsman, and a very lucid and admirable lecturer.

An Italian poet has feigned that at the end of the thread of every man's life there hangs a little medal or collar stamped with his name, and that when Time with the shears of Atropos has cut the thread he throws the medals into the river Lethe; but that about the river there are many birds flying up and down who catch the medals, and, after carrying them round in their beaks a little while, let them fall into the river; only there are a few swans which carry off certain medals to a temple consecrated to immortality.

Though it may be that none of the names I have mentioned have been carried by the swans to the Temple alluded to by Ariosto, other birds have secured the medals, and sparing them from the waters of Lethe have deposited them with the records of this College. There they will not be forgotten.

Those are rare epochs in science which are marked by distinct progress due to some particular worker like John Hunter. Though his name is not associated with any very striking discovery like that of the circulation of the blood by Harvey, or the specialization of nerve function by Charles Bell, his influence upon many sciences was both far-reaching and profound. His contributions to knowledge in human and comparative anatomy, in the natural history of plants and animals, in vegetable and animal physiology, and in geology and palaeontology, were of such signal value that progress was made in each of these sciences through his labors. In one of his papers to the Royal Society, Hunter, in referring to the light thrown on pathology by the then recent physiological discovery of the lymphatics as part of the absorbent system, wrote:

"A discovery in any arc not only enriches that with which it is immediately connected but elucidates all those to which it has any relation." The truth of this is illustrated by his own investigations, which, by enriching physiology, illuminated the whole range of medicine and surgery, and may be said to have given birth to the "*Philosophy of Disease*," as pathology may well be named after what Hunter did for it.

John Hunter was the only man in England in the eighteenth century who took a really comprehensive view of the phenomena of nature; the only great natural philosopher between the date of Sir Isaac Newton's death in 1727 and the coming of those brilliant examples of our national intellect, Erasmus Darwin, John Dalton, Humphry Davy, and Thomas Young, all epoch-makers, whose works appeared immediately after Hunter's death in 1793. There was, however, in France an exact contemporary of Hunter whose life-work was very similar to his. This was Louis-Jean-Marie Daubenton (1716-1800), the rival of Reaumur as the leader of natural history in France; a considerable anatomist, who dissected and described 182 species of quadrupeds; a coadjutor of the great Buffon; a great authority in vegetable physiology, in mineralogy, and on fossils. It is highly probable that Hunter and Daubenton were influenced to some extent by each other's work; Hunter by Daubenton, more particularly in palæontology. Sir Richard Owen has styled Cuvier "the Founder of Palæontology," but the claim to that title really belongs to Daubenton, whose memoir on the application of comparative anatomy to the study of fossil bones was published in 1762, or 34 years before the writing of Cuvier on the subject.

Very different opinions concerning (1) John Hunter's early education and (2) his method of investigation as a philosopher have been expressed by his biographers, yet clear information is obtainable on these points. The impression to be gathered from much that has been written of him is that he was one of the class of untaught geniuses who have risen to the highest intellectual eminence by their own unaided powers; that up to his twenty-first year he was indolent, averse to study or to submit to being taught, idling his time in bird-nesting and low companionship, and that he finally took up the study of anatomy and entered the medical profession after failing to become, or tiring of being, a millwright or a cabinet-maker. I am satisfied, from the evidence of extant letters written by his relatives and contemporaries, that this description is wrong in nearly every particular. He was the grandson of Francis Hunter, who was the second son of Hunter, the laird of Hunterston in Ayrshire, whose family history goes back to the thirteenth century. His father was the owner of a small estate at Long Calderwood in Lanarkshire, seven or eight miles from

Glasgow, which he farmed himself. John Hunter's mother was a Miss Paul, the daughter of the treasurer of the city of Glasgow. John was the youngest of ten children; but besides himself, only two brothers and two sisters lived to grow up. Both brothers received the usual school and university education. James, the eldest, became a writer to the *Signet*. William, who was ten years older than John, was celebrated as a teacher of anatomy and surgery and a leading London physician. Of the two sisters, Dorothea Hunter married the Rev. James Baillie, afterwards Professor of Divinity in the University of Glasgow, and became the mother of the famous physician, Dr. Matthew Baillie, and also of two daughters, one of whom, Joanna Baillie, was the highly gifted authoress of the *Dramas on the Passions*, and one of the closest friends of Sir Walter Scott. The other sister—Janet Hunter—died within a year of her marriage and immediately after John Hunter came to live in London in 1748. Her husband was a sociable, musical, but unbusinesslike young man, named Buchanan, of good family and good patrimony, who had settled in Glasgow as a partner in a large firm of timber merchants. At that date there were no upholsterers in Scotland and high-class furniture was made in workrooms in timber yards, where foreign and rare, as well as indigenous and common, woods were obtainable. It was here that John Hunter, who prided himself upon his manual dexterity, tried his hand at cabinet-making during a short visit which he paid to his sister, Mrs. Buchanan. Hence originated the statement made by his spiteful and disparaging biographer—Jesse Foot—that Hunter had served, and failed, as a millwright or carpenter.

John Hunter lost his father when in his fourteenth year, and having for some time before ceased to attend school continued to live at home under his mother's influence till he came to London in his twenty-first year to study anatomy under his brother William. He was fond of games, but passed much of his time rambling amongst the woods and braes and taking notice of every form of animal and vegetable life. Thus, without going to school and college and getting the same education as his two brothers, he was gaining the knowledge which he could best assimilate and laying the foundation of his future greatness in natural science and surgery. The constant companionship of his mother and the example set by his brothers and his sister Dorothea, was an education in itself. John Hunter might have said what Charles Bell wrote of himself: "My education was the example set me by my brothers. There has been a good deal said about education, but they appear to me to put out of sight example, which is all in all." And speaking of his mother Bell adds, "She was my only teacher."¹ One gets the impression from their biographies that

the home life of both Hunter and Bell had an elevating and an educating influence and was devoid of the superstitions and fanaticism then prevalent in Scotland.

Since the time of Demosthenes, who from his seventh year was brought up and educated by his mother, a great many men who have attained to greatness have ascribed their success to the instruction received from their mothers. Two of Hunter's most distinguished disciples, Sir Benjamin Brodie and Sir Charles Bell, did so very emphatically. Cuvier is another instance.

In reference to his lack of school and university training it is well known that there are those to whom this routine is insurmountably repugnant but who yet are eager in the acquisition of other forms of knowledge. To quote Sir Charles Bell again in reference to his own experience, he said: "The memory of verse or Latin rules, without intellectual comprehension of some principles, I was incapable of. This incapacity depressed me, and it was only when in professional education I found subjects more suited to my capacities that I began to respect myself, and favorably compare myself with my fellow students." Charles Darwin also has told us that school as a means of education was to him simply a blank. John Stuart Mill as a philosopher, Henry Thomas Buckle as a historian, and Robert Louis Stevenson as an essayist and writer of fiction may be cited from amongst many other distinguished men who had no regular school or university education.

As to the assertion that John Hunter was fond of low society, his association with the men whom he met at the house of his highly educated and highly cultivated brother William, and the fact that he married Sir Everard Home's sister, a charming and accomplished woman, all tend to contradict it. Mrs. John Hunter was very musical and wrote the words for Haydn's (1732-1809) English Canzonets, one of which—"My mother bids me bind my hair"—is among the best known. Hunter himself was fond of art and was a collector of prints and engravings and armor.

As to what was the philosophic method pursued by Hunter as a man of science, his writings tell in no uncertain manner. There are only two methods open to the intellect—Deduction and Induction. Deduction starts from a general proposition and reasons from this to individual cases. Induction starts from individual facts and reasons upwards to general propositions. For example, reasoning by Deduction from the major proposition "All men are mortal," and the minor proposition which I will put thus: "Mr. Brown possesses all the attributes of man," we arrive at the conclusion that "Mr. Brown also will in time die." Reasoning by Induction, on the other hand, we first ascertain (say, from reading innumerable biographies, from the records and histories of

nations, from tombstones and epitaphs, and from various facts in past and present experience) that everyone who has lived has died, and then we conclude that not only will Mr. Brown himself die but that all Brown's family, and all the families of Brown, of Jones, and of Smith, etc., in fact that all men are mortal, notwithstanding the miraculous disappearance of Enoch, and that Elijah "went up by the whirlwind into the skies." Did time permit I might illustrate the difference between Deduction and Induction by other but less simple instances than that I have just given, and at the same time show the difference between the Scotch and English national methods of inquiry—e.g., between Cullen and Hunter in their investigation as to whether all animal matter is originally vegetable matter; or between Hutton and William Smith who respectively were the founders of Scotch and English geology; or, again, between Watt and Cavendish who at the same time discovered, Watt by deduction and Cavendish by induction, that water is the component of two gases. Of each of these instances it may be truly said that the inductive philosopher (the Englishman) established the facts and the deductive philosopher (the Scotchman) established the ideas. Deduction and Induction have for the most part been employed separately, but by a few investigators they have been combined.

In the history of the world there have been three great intellectual movements leading to three great schools of philosophy—namely, the philosophy of antiquity identified with Greece, Scholasticism identified with Charlemagne and France, and the New Philosophy which is of English birth and identified with the name of Francis Bacon. Excepting the philosophy of Aristotle, which was largely inductive, the first two were chiefly deductive. The Baconian is known as the new inductive method. In reviewing the intellectual movement of the eighteenth century in England, Scotland, and France in its bearing on Hunter and his work, we find that each country adopted one of the two philosophic methods as the national method. To understand this movement better it would have been well had time permitted to take a brief glance backwards at the philosophy of earlier ages.

Up to the end of the fifteenth century first Greek philosophy and then scholasticism had monopolized men's thoughts, but during those 2000 years and more they had done nothing to mitigate human suffering, nothing to advance the public weal, nothing to extend the empire of man over the material world. Indeed, the application of science to useful practical ends was deemed by the old Greek philosophers to be unworthy of men of learning, degrading and debasing to philosophy and insulting to philosophers.

Scholasticism, which was a blend of Christianity and paganism, an "ill-starred alliance between the old philosophy and the

new faith," was in reality the logic of Aristotle associated with the teaching of the church, and by it reason became subject to authority and was made the mere handmaid of faith.

As men's interests ceased to be centred in ecclesiastical disputations and their attention became by degrees directed to art, science, and practical discoveries, they looked about for someone who would lead them to the dawn of a new philosophy. This leader was discovered in Bacon, who propounded a philosophical system essentially new and differing alike both in method and object from that of the Ancients and that of the Mediævalists or Schoolmen.

Bacon described with scorn the uselessness of the philosophy of the Platonists, the Peripatetics, the Stoics, and the Epicureans. Equally he scouted the system and dogmas of the Schoolmen. Whilst disclaiming to be himself the founder of a sect or school, and fully foreseeing that his method was by no means perfect, he gave a new and powerful impulse in a direction diametrically opposed to both the Greeks and the scholastics. Some who have never studied his works seem to entertain a very incorrect idea as to what it was Francis Bacon really did for science. Of course he did not invent Induction. The inductive method has been practised ever since the world began: by every infant before weaning, by every new-born mammal as it learns that it will get milk from its mother, and not from its father; by every farm laborer who finds by experience that he cannot gather grapes from thorns nor figs from thistles, and that if he sows tares he will not reap wheat or garner barley. We are all employing the inductive method daily, and many who have never read the rules laid down in the "*Novum Organum*" are conducting the process as well as, or better than, many who have. Bacon's great merit is that he "led forth the sciences from their house of bondage," that he directed the minds of men away from mere verbal disputations to the discovery of truth by observation and experiment, that he incited men to develop the industrial arts and to acquire knowledge and apply it "to the glory of God and the relief of man's estate."

The chief cause of this great reformation in philosophy was the great reformation in religion.

THE INTELLECTUAL MOVEMENT IN ENGLAND.

In England that enlightened scepticism and spirit of inquiry which in religion conduced to toleration, in politics to freedom, and in physics to natural science, came to the front in the sixteenth century with the Reformation, increased with the Rebellion of 1645, and was confirmed by the Revolution of 1688. The Reformation dissipated the notion of the infallibility of the Church. The history of different countries shows that as long as the govern-

ing power was in the hands of ecclesiastics there was no toleration in religion and little or no advance in science. It was in England during the reign of Queen Elizabeth that government for the first time in any European country was carried on without the active co-operation of ecclesiastical authority, and it was also during her great reign that there began the growth of that splendid literature which was to stimulate and increase the national spirit of liberty and inquiry and to spread its influence, in a generation or so later, first over France, then throughout Europe.

During the first half of the seventeenth century, which was a period of great superstition, there was an effort to reverse the enlightened policy of Elizabeth. The influence of this on works of learning is well illustrated by the two books of Sir Thomas Browne. His "*Religio Medici*" was published about 1634. In this book the author exhibits a superlative degree of credulity, expresses his belief in witches, and declares his willingness to assent to a proposition all the more because of its improbability, and his readiness to believe in a thing in proportion to its actual impossibility. But twelve years later (1646), when the civil wars of the Rebellion were raging and men's intellects were becoming more and more independent of authority, Sir Thomas Browne's second book, "*Enquiries into Vulgar and Common Errors*," appeared, and proved to be a systematic and elaborate attack upon most of the superstitions then prevalent. The striking inconsistency between these two works by the same author marks the growth of the vast social and intellectual changes which culminated in the overthrow of ecclesiastical intolerance and political persecution.

With the Restoration came an increased desire for knowledge. The period following the Revolution of 1688 forms one of the most important periods in the history of the world, because it was then, and in this country, that the human intellect was completely freed from subjection to authority; and it was then, and in this country, that the triumph of liberty over despotism, and of reason over blind and enforced credulity was permanently and completely accomplished. The suppression of superstition was further aided by the earnestness with which the physical sciences began to be cultivated during the Commonwealth and after the Restoration. The Royal Society was established in 1662 and Robert Boyle (1626-1691), who adopted the views and method of Bacon, was making discoveries of the very first importance.

When Hunter arrived in England he came amongst a people deeply imbued with the Baconian spirit, for if Harvey, Hobbes, and Newton be excepted, all English scientists for 150 years after the death of Bacon in 1626 were eminently inductive. Newton, who was born 16 years after Boyle, had been dead 21 years when Hunter came to London in 1748, and the only giant mind in Eng-

land to be likened to Hunter was Edmund Burke (1728-1797), the reflective and philosophic statesman who resembled him in the power of his intellect, in his marvellous capacity for thinking, and in his conception of general principles based on long-considered ideas. Hunter's rôle was the philosophy of life and nature; Burke's the philosophy of civilization.

Though during Hunter's life there was no one in England pursuing science who was at all comparable with himself, or with the great Scotch and French philosophers and scientists then living, still the period covered by Hunter's residence in London was one of great national brilliancy and renown in many branches of learning and culture, despite the depths of political and commercial degradation into which the country fell owing to the taxation of America and the American war and its consequences. The British Museum was founded in 1753 through the collections made by Sir Hans Sloane being purchased by the Government on his death. Sir Hans Sloane followed Sir Isaac Newton as President of the Royal Society. Like Hunter, he was led to study medicine owing to his intense love of natural history. He was the first person in England to attempt to form a museum; and it is interesting to note that the British Museum, the Glasgow Museum, and the unrivalled museum in this College owe their existence to collections made by London medical men of Scotch extraction—namely, Sloane, William Hunter, and John Hunter respectively.

In literature and art the eighteenth century was very illustrious. The Royal Academy was founded in 1768 at the instigation of Benjamin West, a Pennsylvania Quaker, who startled the Italians by likening their Belvidere Apollo to a Mohawk warrior, and who is said to have painted 400 pictures for King George III. With West three other artists were associated in obtaining the Charter of the Royal Academy, one of them being Penny, the son of a London surgeon, who was made the first professor of painting. Dr. William Hunter was appointed the professor of anatomy.

It has been said by one of the biographers of Sir Joshua Reynolds that there centred round him as the first President of the Royal Academy a "surprising and splendid constellation of genius such as never before his time and never since illumined this country." Reynolds lived opposite John Hunter on Leicester Fields, now Leicester-square, and his genius as an artist has pictured for all times on the canvas suspended behind me, the thought-inspired features of the famous surgeon. The "Marriage à la Mode," the "Rake's Progress," and the other "pictorial sermons," as they have been called, of Hogarth; the "Blue Boy," the "Celebrated Duchess," and the grand landscapes of Gainsborough; the character portraits of Lady Hamilton by Romney, and probably

some of the earlier paintings by Lawrence and Hoppner, must have been known to Hunter. So, too, the works of West, Cosway, Richard Wilson, Opie, and others of less importance. Now, for the first time in its history this country produced genius enough to establish its claim to the honorable distinction of having "an English school of painting." Bartolozzi, the Florentine, settled in London in 1764, and for 40 years was occupied here in engraving pictures—his reproductions being, as a rule, more beautiful than the originals. Angelica Kauffman, too, was delighting Londoners by her sentimental pictures, astonishing them by her cold-blooded and unsentimental marriages, and decorating with pseudo-classic paintings the interiors of houses in the Adelphi and of mansions elsewhere, built by the brothers Adam. Hogarth, Edmund Burke, Samuel Johnson, Oliver Goldsmith, David Garrick, Sterne, and others, all friends of William Hunter and his brother John, were meeting daily at the Literary Club, the Turk's Head, or Reynolds's house. Fielding, having published "Tom Jones" (1749) and "Amelia" (1751), was annoying Richardson by his burlesque of "Pamela," and worrying the Government and the Lord Chamberlain by his satires on bribery and the elections. Smollett's "Roderick Random," published in 1748, may have been read by Hunter during his first journey from Scotland to London. The Rev. Laurence Sterne created a great popular success by the gross innuendoes and indelicacies of "Tristram Shandy"; and the prim little Fanny Burney (Madame d'Arblay) became famous as a novelist of irreproachable propriety. "The Tragic Muse"—Sarah Siddons—had all but drawn tears from Hunter's eyes; and David Garrick as "Felix" in "The Wonder: a Woman Keeps a Secret," must on some occasion or other have made him laugh until he sobbed. Pope and Swift and Sir Robert Walpole died when Hunter was 16 or 17 years old. Alexander Pope was a friend of Cheselden, and Cheselden was Hunter's first surgical instructor. In this way, through Cheselden, perhaps, or perhaps from hearing the poems read aloud when a boy at home, Hunter must, I think, have been influenced or inspired by Pope. The "Essay on Man" was published in 1734, and it is impossible to read some of Hunter's statements or to follow his lines of thought without being frequently reminded of passages on nature and the universe and the relation of man to the rest of the universe which that poem contains. Lastly, as a collector of prints, pictures, weapons and armor, *et cætera*, Hunter probably encountered that personification of affectation—Horace Walpole—in some of the curio shops or sale-rooms of the town, when Walpole was hunting for oddities and rarities to add to the motley collection for which he was notorious. Collecting was becoming quite a fashion at the time.

THE INTELLECTUAL MOVEMENT IN SCOTLAND.

The intellectual movement in Scotland differed widely from that in England in the seventeenth and eighteenth centuries. After the passing of the Acts of 1707 ratifying the union of Scotland and England good roads and canals connecting the chief towns and districts were made and manufactures and commerce were promoted. Hence it happened that just about the date of Hunter's birth Scotland, for the first time, in her history, produced two classes of enterprising and thinking men whose aims were essentially secular—namely, an industrial class and a philosophical class. During Hunter's early manhood, commercial and manufacturing prosperity had fairly set in, and philosophers and scientists of the very highest eminence were beginning to make the name of Scotland famous by their labors. The number of original thinkers in Scotland in the eighteenth century is the more noteworthy because in all the previous centuries the country had only produced two authors whose works were of the least merit—namely, Buchanan (1506-1582), the Scottish historian and the greatest Latin scholar in his time, and Napier (1550-1617) the inventor of logarithms. But the most striking fact about Scotland in the eighteenth (and the first half of the nineteenth) century was the existence of so many philosophers and the creation of a noble and enduring literature, at a time when the Scotch were the most priest-ridden and superstitious people in Europe, not excepting even Portugal and Spain. Besides the influence of the Scottish kirk, another cause of the continuing ignorance and superstition of the people was the national method of inquiry. Centuries of ecclesiastical supremacy had influenced the nation in favor of the theological method of reasoning; and as the Church required the acceptance on faith of general principles and dogmas, and regarded it as heresy to doubt or question—this method was necessarily the deductive. Induction under such conditions is impossible. Paley, and the authors of the *Bridgewater Treatises*, and many essayists tried it and failed. When, therefore, the ablest minds in Scotland directed their thoughts and attention to philosophy and science, they without exception employed the deductive system with which they had been made so long familiar. Thus it was with Hutcheson and Reid in metaphysics; with Adam Smith and Hume in political economy and history; with Black in physics and chemistry; Cullen in pathology; Hutton in geology; and Leslie and Watt in chemistry. In all branches of science it was the same. All the discoveries made by Scotchmen concerning both the inorganic and the organic world were made by the deductive method.

THE INTELLECTUAL MOVEMENT IN FRANCE.

As there is reason to think that Hunter was acquainted with the scientific work going on in France, notably that of Daubenton, and as Hunter's work was not without effect on some of the great French scientists, such as Cuvier and Bichat, I propose to examine very briefly the intellectual movement in France just before and during Hunter's lifetime.

The spirit of intellectual progress for which France was celebrated during the age of Richelieu and Descartes in the first half of the seventeenth century did not continue. In the second half of that century, and during the rest of the reign of Louis XIV., it was thwarted and delayed by the despotic and protective spirit of Government which was an early but weighty cause of the French Revolution; just as liberty and reform in England were checked by attempts in the first of the seventeenth century to suppress the popular will and to reinstate in power the Catholic clergy. Immediately, however, after the death of Louis XIV. in 1715, the state of the popular mind in France, which was thirsting for inquiry and hungering for liberty, was as favorable to the reception of the Baconian system in that country as the popular desire for political intellectual freedom in England had been in the seventeenth century. When therefore, in spite of the natural vanity of the French people during Louis's lifetime, the eyes of France turned after 1715 to England as the only country where liberty was known, nearly every Frenchman of eminence in literature and in medical and other sciences either visited England or learnt the English language; many did both. Voltaire, Diderot, Buffon, and Montesquieu all took part in introducing English literature and English philosophy into their own country.

During the second half of the eighteenth century many of the best intellects in France were directed to physical science. A hundred years before Descartes had made it a fundamental principle of his philosophy that we must ignore the knowledge of the external world—i.e., of nature—and must depend on "thought." Now, Helvetius, the most celebrated French moralist, and Condillac, the most celebrated French metaphysician of their period, said "we owe the whole of our knowledge to nature." It was this latter view which led to the discovery of more new truths in science by Frenchmen between 1750 and the end of the eighteenth century than had been made in all previous periods put together. The names of Lavoisier, Foucroy, Berthollet, Fournier, Buffon, Daubenton, Cuvier, and Bichat bear testimony to this. The vast discoveries which were being made roused general interest and curiosity in France. Some acquaintance with science came to be considered essential to a good education. Lectures in all branches of science drew together persons of the highest rank as

well as of the several classes below them. Women of fashion attended lectures on chemistry, geology, mineralogy, physiology, and anatomy. Antoine Petit's lectures on anatomy (commenced in 1768) were delivered before overflowing audiences. Cuvier² tells that the anatomical descriptions which Daubenton wrote for Buffon were to be seen on the toilet tables of ladies. Oliver Goldsmith, who was in Paris in 1755, remarks with surprise that he saw "as bright a circle of beauty at the chemical lectures of Rouelle as gracing the Court of Versailles." It was the same at the public séances of the Académie Française in 1779 and at Fourcroy's lectures on chemistry in 1784. Such was the condition of the intellectual life in France, and particularly in Paris, during the latter half of Hunter's career.

The same spirit prevailed in this country. The English democracy had just begun to enter eagerly into political life. There was also a great increase in the general desire for knowledge and this demand was augmented by the very steps taken to satisfy it. Now for the first time the public at large took some interest in the cultivation of the fine arts, and in 1760 there was held the first public exhibition of pictures by English artists. It was during the eighteenth century that booksellers first started shops in the provinces and that circulating libraries and periodical reviews were first introduced. The publication of the proceedings in Parliament against which the last standing order was passed in 1728—the year of Hunter's birth—and concerning which the Lord Mayor and an alderman of the City of London were sent to the Tower in 1771, became an established parliamentary institution from 1772. Before the second quarter of the eighteenth century printing establishments were almost unknown in provincial English towns and printing presses were only by degrees being set up in country towns in the latter half of the century. It was in the eighteenth century also that the earliest systematic attempts were made in England to popularize the sciences by lectures, to spread knowledge of physical truths through the medium of encyclopædias and simple treatises, and to give enlightenment by means of public addresses on such subjects as political rights of the people. It was in the latter half of the same century that Sunday-schools, reading clubs, and debating societies first came into existence.

This desire to learn and this rapid and widespread diffusion of knowledge amongst the peoples of France and England were in large measure attributable to the fact that both the French and English national philosophical method was Induction. The condition of the Scotch people at the corresponding period was in marked contrast.

By comparing countries whose national system is Deduction with those whose national system is Induction it is abundantly

proved that knowledge is never widely diffused amongst a people by the deductive method, which begins with ideas, but that it spreads by means of the inductive process, which begins with facts. The deductive process, by dealing with abstract ideas, appeals to the thinking faculty and not to the senses, and as ideas are more difficult to grasp than facts, and as there are more good observers than great thinkers, deduction influences the popular mind much less than induction. Hence it was that the Scotch people did not seek enlightenment and were content to continue in subjection to theological authority; hence it was that in England the overthrow of Scholasticism (i.e., of the purely syllogistic philosophy of the Middle Ages) by the Baconian system was followed by the general extension of knowledge and trade; and hence it was that in France in the seventeenth century the deductive philosophy of Descartes and the Cartesian philosophers did not lead to the general instruction of the people; whereas in the eighteenth century, after English literature, English opinions, and the philosophic views of Bacon and Locke were introduced into France by Voltaire and others, knowledge spread rapidly amongst all classes of the French people.

With increase of knowledge came unhappily a feeling of revenge for the political and social wrongs they had suffered for generations, and the French mind, bent on obtaining freedom, was fired by a deadly determination to resist oppression and defy absolutism which finally culminated (in 1789) in the revolting cruelties of the greatest and most ghastly revolution the world has ever known.

On October 16th, 1793, John Hunter died suddenly when attending a board meeting in St. George's Hospital. On the same day and about the same hour Marie Antoinette was beheaded in Paris.

HUNTER'S METHOD OF INQUIRY.

The study of Hunter's works shows that he combined to an exceptional degree the two philosophic methods—Deduction and Induction. There is no evidence that Hunter studied formal logic any more than Latin and Greek. He was essentially a thinker rather than a scholar, yet an experimental philosopher rather than a metaphysician. But Hunter saw that for a complete scheme of knowledge Deduction and Induction are supplementary to each other, and when the time comes, if ever it does come, when all the intellectual resources of man are fully developed and perfectly co-ordinated, then these two methods of reasoning will no longer be regarded, as they now often are, as hostile to one another but will be combined in a single system.

Though a great inductive philosopher Hunter employed the deductive method very largely, especially in pathology. He reasoned downwards from premises and hypotheses which he deliberately

invented, and in doing so arrived at conclusions, sometimes unproven, sometimes inaccurate, sometimes only approximately correct. Still, though it is true that some of his doctrines have had to be modified, some even set aside altogether, yet, on the other hand, it is astonishing how many of his speculative conclusions, both in physiology and pathology, formed at a time when microscopes were very inferior and chemical science was in a backward state, have been confirmed by his successors working with much better instruments and with additional and very superior aids to research. Thus did his genius often outstrip facts and anticipate discoveries.

His employment of the inductive method is illustrated by his attempt to explain congenital defects by a reference to transitory structures and the metamorphoses of fetal life, as in the case of congenital hernia, which arises from the failure of the peritoneal process to become shut off from the peritoneal cavity. Other instances of his use of induction are his scheme for the classification of monstrosities based on the disposition which every species of animal and every part of an animal body has, to deviate from nature in a manner peculiar to itself; his instructions to Jenner as to how he should ascertain whether color blindness is due to a general defect or to a failure to appreciate the usual impressions made by primary colors; his careful and patient anatomizing of so many hundreds of different species of animals and of so many animals of the same species; his numerous observations of plants; and his untiring investigation of the diversities of structures and organs in order to arrive at accurate conclusions as to what structures and organs are necessary for the performance of different functions. As a result of these dissections and observations he pointed out the conditions which characterized groups of animals, classifying them according to their hearts, their nervous systems, their stomachs. In this he anticipated Cuvier. Following the induction method he trusted to nothing but his own observations and to testing his ideas by the most varied and exact experiments. His "Treatise on Bees" is an admirable illustration of this. Yet in making inquiries before drawing his conclusions he is neither prodigal of facts nor wasteful of experiments. In reference to Swammerdam's minuteness of description of the particular structure of bees, he says that minutiae as such should be avoided, that they are only of value in so far as they elucidate principles, that notice need not be taken of things that are common to a bee and to other insects, "but only of its peculiarities which distinguish it from all others [animals] and constitute it to be a bee."

Hunter in his "Observations on Digestion," when criticizing Réaumur and Spallanzani, remarks: "I think we may set it down as an axiom that experiments should not be often repeated which

tend merely to establish a principle already known and admitted, but that the next step should be the application of that principle to useful purposes."³ And then he goes on to say: "But the application of principles requires more than simply the knowledge of the principle itself, and therefore those who cannot reason from analogy, or draw general conclusions from a few convincing facts, and who require to have every relative conclusion or inference proved by experiment, must be pleased with Spallanzani; but he must tire even those whom he informs and much more those who read his works in expectation of something new."⁴

He made great use in practice of analogy and comparison, of resemblance and of difference. Many arguments and inferences drawn from analogy occur in his writings, some of them amounting to the most perfect induction, but others, it must be acknowledged, leading him into error. Fallacies of analogy are to be found in his treatise on the teeth—e.g., he concludes from his experiments with madder on the teeth, as compared with others on bone, that the teeth have neither a vascular supply nor absorbents. Again, he argues from the existence and use in carnivora of canine teeth to their use in man as organs for tearing and the prehension of food; thus ignoring or overlooking the fact that canine teeth are far more developed in some animals which are exclusively frugivorous. Some of his analogies are indeed mere conjectures—e.g., he infers that the bicuspid is less useful than either the incisors or the molars, and he attempts to support this by saying: "In most animals, so far as I have observed there is a vacant space between cutters and grinders."

It was chiefly by induction that he concentrated the scattered facts of comparative anatomy and thereby advanced the progress of physiological science. But a considerable part of his pathology also is based on the inductive process. Notwithstanding his vast achievements in physiology he was even greater as a pathologist. If it be remembered what pathology was before his own time it must be admitted that in this science Hunter remains without a rival. It is in this science especially that his depth of insight, his profundity of thought, and his comprehensiveness of view mark him out as a genius. With Hunter pathology included the laws of disease not only in man but in the whole of the animal and vegetable kingdoms. His outlook was even more comprehensive still, for it embraced not only the whole of the organic world but the deviations from the typical form in the inorganic also. In the study of the obscure phenomena of disease there is more scope for speculative ideas than for experimental research, at any rate for the forms of research which were possible in Hunter's day. It is therefore in his pathology much more than in his physiology that Hunter employed the deductive method. Thus he lays it down "as

an axiom that two processes cannot go on at the same time in the same part of any substance."⁵ Two different fevers cannot exist in the same constitution; nor can two local diseases be present in the same part at the same time. Such names as rheumatic gout, which imply a combination of two diseases, suggest a possibility of a union which, according to Hunter's principle, cannot exist. Again, in his treatise "On the Blood, Inflammation, and Gunshot Wounds"⁶ he adopts the principle that the specific qualities in disease tend more rapidly to the skin than to the deeper-seated parts; and he regards this as a law of nature similar to the principle by which vegetables always approach the surface of the earth. The whole chapter on Sympathy in his "Principles of Surgery"⁷ is full of deductive reasoning. The doctrine of health and disease, as explained by him in his "General Principles of the Blood,"⁸ as well as in his "Principles of Surgery,"⁹ illustrates his desire to build arguments on principles which he spontaneously assumed.

Still another instance of deduction is his reasoning from the hypothesis that the immediate cause of action is the same in both animals and plants, but that whilst in animals there is a greater quantity and variety of motion, in plants there is more real power. He illustrates this difference by the horse and the vine. The vine can raise a column of fluid five times higher than the horse's heart can do, the energy or power of the animal being weakened by being directed to several different purposes.¹⁰ In his "Treatise on Venereal Disease" his arguments are based upon the too hasty generalization that affections which admit of cure without the use of mercury are not venereal. He thus made the remedy the test of the disease, and sought to substantiate this preconceived idea by facts. His attempts to prove that monsters are formed as monsters from their very beginning supplies another example of his use of deduction. When reasoning deductively he so much relied on his premises that he sometimes refused to accept any evidence by which they were impugned. In his inductive investigations, however, he never disguised or perverted facts to make them tally with his hypotheses. Instead of endeavoring to render facts and theories consistent with one another, when they evidently were not, he would adhere to his hypothesis without blinking the facts. Thus he asserted that teeth are extraneous bodies without either circulating vessels, absorbents, or nerves, but when after transplanting teeth he thought he had established the fact that they were "capable of uniting with any part of a living body,"¹¹ he explained this power of uniting by attributing to teeth what he called a "living principle."

His Croonian Lectures on Motion contained admirable examples of his employment of the combination of deduction and induction.¹²

Buckle, in his "History of Civilization,"¹³ attempts to explain the intimate union of Deduction and Induction in Hunter's intellect by the fact that he was born and remained till his twenty-first year in Scotland and afterwards passed the rest of his life in London, where he became socially and intellectually a native of England. "Hence," says Buckle, "the early associations of his mind were formed in the midst of a deductive nation, the latter associations in the midst of an inductive one. The country of his birth made him deductive, the country of his adoption made him inductive. As a Scotchman he preferred reasoning from general principles to particular facts; as an inhabitant of England he became inured to the opposite plan of reasoning from particular facts to general principles." And Buckle adds: "I make no doubt that one of the reasons why Hunter, in investigating a subject, is often obscure, is that on such occasions his mind was divided between these two hostile methods." Buckle's line of argument is here purely deductive and capable of being thrown into three or four strictly correct syllogisms—correct, that is, as to figure of syllogism, but not as to the ideas on which they are founded. Before accepting or rejecting Buckle's explanation, however, we must consider the premises on which he bases his conclusion. Like many deductive reasoners, he assumed the truth of his major premise without having explained the facts on which it rests. He, an Englishman, has argued like the Scotch he describes; his logic being good if we concede the general propositions from which he starts. But can we concede them? Is it true that philosophers who have passed their youth among a nation whose method is inductive, or *vice versâ*, have their minds divided between these two hostile methods and, in consequence, are often obscure in their investigations? The conclusion will be proved to be false if it can be shown that a philosopher may pass his youth in a country without ever coming under the influence of the national philosophic method.

This was the case with John Hunter; he never did come under the influence of the ordinary Scotch teaching. In Scotland the clergy had the control of all centres of education, both public and private, throughout the country. They directed what should be taught, and how it should be taught, not only by village schoolmasters and masters of grammar schools, but by the professors in the universities, and even by private tutors. Had John Hunter continued at school and proceeded to a Scotch University he would of course have come under the influence of the deductive method. But even if his education had been of the usual Scotch type it does not follow that he would have adopted the Scotch philosophical method. His two brothers, James and William, who did receive such an education, did not adopt it, not even William, who was a resident pupil for three years and a life-long friend and corres-

pendent of so thorough-going and so able a deductive reasoner as Cullen.

The courage shown by John Hunter when a boy twelve years old, in a cottage scene described by his niece Joanna Baillie, justifies the assertion that he was not imbued with the clerical teaching and superstitions prevalent at the time in Scotland. In the eighteenth century the most popular divines in Scotland, as well as the clergy generally, taught that Satan frequently appears clothed in a corporeal substance, and that he seized persons and carried them away in the air. When the preacher mentioned the name of Satan the church resounded with sighs and groans, and the congregation were petrified with awe as they listened with gasping breath and hair standing on end. Such impressions were not easily effaced. Images of terror accompanied the ignorant people to their homes. No wonder therefore when a ghost in form of the devil appeared, whilst Hunter was chatting in a neighbor's cottage, that the cottagers, educated after this manner, were stricken motionless with fear, whilst young Hunter, brought up differently, attacked and drove away the apparition with the fire-tongs.

The second statement made by Buckle is that the conflict in Hunter's mind between Deduction and Induction darkened his understanding. I can no more accept Buckle's explanation of the occasional obscurities in Hunter's utterances than Buckle could accept Ottley's—namely, that they resulted "from a deficient education." I agree with Buckle that a deficient education no more makes a man obscure in his statements than a good education makes him lucid. With educated and uneducated alike the power of clear expression depends on clearness of thought. When Hunter is obscure it is either owing to the complexity of his subject or to his own mind being in doubt. The adoption by Hunter of both methods—Deduction and Induction—was, in my judgment, the result of two causes: (1) the natural scope and bent of his mind; and (2) the nature of the subjects to which he devoted his life. Induction is largely the method required for the profession he chose. Locke and Sydenham had left it on record that in their opinions the medical sciences to be properly pursued ought to be approached by the Baconian method, and Hunter was one of a family several members of which showed a great leaning towards, and a marked aptitude for, these sciences.

James Hunter gave up his profession as a barrister and William, who was to have been a clergyman, abandoned the Church for anatomy, surgery, and medicine, and John of his own free will went directly into the medical profession. Their sister's son, Matthew Baillie, became the celebrated London physician and pathologist whose medallion portrait is stamped upon the cover of the Transactions of the Pathological Society of London. John

Hunter was also a disciple of Bacon in that he employed induction in the pursuit of truth with an ulterior regard to utility and the good of mankind. On the other hand, being a great thinker, he naturally inclined to the deductive method. But the tendency in this direction was not so strong with him as with the purely deductive philosophers. He had not the deductive force of Descartes which could build up a profound philosophy with mathematical precision, and by introspective examination, starting from a single subjective principle, such as "*Cogito, ergo sum*"—" *Ego sum res cogitans.*"

It was not as a logician but as an observer and experimenter that Hunter excelled; it was not the beauty of his logic but the industry with which he collected facts, and the ability and honesty with which he reasoned from them, which made Hunter great. He naturally possessed the special requirements for induction, namely, a desire for knowledge, the love of inquiry, acuteness of observation, ingenuity in devising experiments, and the habit of taking nothing for granted which he could verify for himself. Had it been otherwise John Hunter might have become a deductive pathologist of the Scotch type like the only other great British pathologist of the eighteenth century, the illustrious Scotchman, William Cullen.

If it be true, and I do not think it is, that in Hunter's mind the two philosophic methods were in rivalry or conflict, and that this conflict led occasionally to confusion of thought and obscurity of language, the perplexity arose from the very comprehensiveness of his mind and the grandeur and vastness of its conceptions. If, on the other hand, as I believe was the case, he employed at will both Deduction and Induction but did not succeed in fully co-ordinating or completely combining the two methods, that was because, notwithstanding his wonderful genius, he yet fell short of being an absolute monarch of the whole kingdom of the intellect. — *Lancet*, London.

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- ⁵ Ibid., vol. iv., p. 96; Ibid., vol. ii., p. 132; Ibid., vol. ii., p. 34.
- ⁶ Ibid., vol. ii., p. 285.
- ⁷ Ibid., vol. i., p. 317.
- ⁸ Ibid., vol. iii., p. 10.
- ⁹ Ibid., vol. i., p. 310.
- ¹⁰ Ibid., Croonian Lectures, vol. iv., p. 204.
- ¹¹ Ibid., vol. i., p. 18.
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- ¹³ Vol. iii., p. 432-5.

TROPACOCAINE IN LUMBAR ANESTHESIA

W. TOMASCHEWSKI (*Deut. med. Woch.*, Dec. 19, 1908) records the results which he has obtained with lumbar anesthesia in the Military Medical Academy of St. Petersburg. In all, 104 patients were subjected to the procedure, of whom 87 were males and 17 females; 120 operations were performed on these persons under its means. During the period from October, 1905, to December, 1907, 60 per cent. of all operations on the lower half of the body were conducted in this way. Lumbar anesthesia was not applied in cases of definite spinal cord disease, when marked nervousness or hysteria was present, in operations for which no plan could be made beforehand and which were expected to last a long time, to entail great difficulty, and possibly create an unfavorable impression on the mind of the patient if awake, for operations which necessitated much raising of the pelvis, and for operations deep down in the peritoneum.

The ages of the patients varied between 14 and 63 years. In 6 cases—that is, 5 per cent.—no anesthesia was induced; in 6 further cases the anesthesia was incomplete. No unpleasant or threatening symptoms were met with.

In one case, in a small patient in whom 0.1 gm. of tropacocaine was injected, the anesthesia reached up to the line of the nipples. Two hours after the operation the patient complained of feeling of oppression, and there was pallor and cyanosis of the face and lips. This passed off after twelve minutes. The dose was obviously too high. In another case a large quantity of cerebrospinal fluid was accidentally allowed to drain away, and a severe headache lasting three days followed. Headache of short duration and some retching was seen in a few cases.

The average duration of the anesthesia was seventy-one minutes, while the average duration of the operation was forty-four minutes. In 15 per cent. of the patients affections of the vascular system or lungs were present, but in no case were these affections rendered worse in any way.

The author used tropacocaine exclusively, and injected from 0.05 to 0.09 gm. into the lumbar canal at first by means of Bier's syringe, and later by means of a syringe designed by himself. The drug was dissolved in the cerebro-spinal fluid. Scrupulous asepsis is required, not only with regard to the skin, instruments, etc., but also with regard to the tropacocaine itself.

In 40 per cent. of his patients no changes were found in the urine, while in 60 per cent. traces of albumin, detectable by means of Spiegler's reagent, were met with. The albuminuria cleared off in from one to three days. Severe nephritic changes are, according to the author, extremely rare. In this respect, tropacocaine applied

by lumbar injection is preferable to chloroform inhalation. He regards tropacocaine as the safest and best lumbar anesthetic.—*British Med. Jour.*, May 8, 1909.

STROPHANTHIN IN PURE FORM

THE desire to standardize accurately potent heart tonics, such as digitalis, has led to the introduction of the term "frogunit." This refers to the amount necessary to cause systolic rest within thirty minutes of the heart of *rana temporaria*, weighing 30 to 40 Gm. Since the various preparations are not, however, absorbed equally fast from the lymph-sacs of the frog, it is a much better plan to employ principles known to be chemically pure. Strophanthin has latterly been employed for intravenous use, where quick action is desired.

Most specimens of this glucoside are impure and amorphous, but recently Thoms has succeeded in isolating the principle in pure, crystalline form from the seeds of *Strophanthus gratus*. This *gratus*-strophanthin Thoms, manufactured by Merck, was employed in 32 patients by P. Fleischmann and H. Wjasmensky. The dose given for strophanthin is usually $\frac{3}{4}$ to 1 mgm., but with the pure, crystalline preparation no more than $\frac{1}{2}$ mgm. should be injected. The results of an injection are very evident: Very soon the pulse will slow, the pulse amplitude rise, and within three hours diuresis begins. The lowest pulse-rate is noticed between six to eight minutes up to several hours after the injection. The duration of action varies with the case; sometimes it is also desirable to give digitalis or other heart tonics. The best results are always seen in cardiac decompensation; less effect is evident in pneumonia, scarlet and other infections, while the tachycardia of phthisis, carcinoma, etc., is usually not reduced. In one case of Basedow's disease the pulse even increased in frequency. Untoward effects are seen very rarely, but the dose should not be too high in cachexia. Cumulative effects should be guarded against, particularly if the patient has been taking digitalis.—*Deutsch. med. Woch.*, 1909, No. 21.

Proceedings of Societies:

THE NIAGARA PENINSULA MEDICAL ASSOCIATION

The regular meeting of this association was held in the Clifton Hotel on the 31st day of August, Dr. Wilson, of Niagara Falls, presiding.

Among those present were: Drs. J. G. Sutherland, John Sheahan, MacDonald and McMahon, of St. Catharines; Dr. Binns and Dr. Colbeck, of Welland; Dr. Brewster, of Ridgeway; Dr. Campbell and Dr. Herod, of Thorold; Dr. Duggan, of St. Davids; Drs. Wilson, Thompson and Logan, of Niagara Falls South; and Dr. N. Walker, of Niagara Falls, Secretary of the Association. Drs. H. B. Anderson and J. N. E. Brown, of Toronto, were guests.

The first portion of the programme was luncheon, following which the paper of the day was read by Dr. H. B. Anderson, of Toronto, on the subject of Neurasthenia.

The attention of the medical world has been called to this disease just about the same time as it was to bacteriology and other laboratory investigations; attention of the medical world being directed thus the very existence of this "American disease" was questioned for years. The traumatic variety had led to much litigation in which it was not difficult to find medical men to confirm the legal contention that the traumatic form was a thing purely imaginary, which seemed to be supported by the sudden cure which followed a settlement on a \$5,000 basis.

Too long had the neurasthenic gone from physician to physician unhelped, and finally wound up with the quack, the Christian Scientist, or the Emanuelite, who had cured him.

It was true the profession faced the situation and made a study of the scientific principles underlying the treatment of this disease.

Nerve tissue was subject to over-work, toxic influences, perverted nutrition and hereditary weakness.

Neurasthenia was a complaint out of all proportion to the organic change to which symptoms could be referred.

When one remembered that the disease affected the psychic, sensory and vaso-motor systems one could readily see why there should be a manifold symptomatology.

The recognition of the disease was often difficult, but when weighed in the light of the etiological factors, the complex tangle could be readily unravelled.

The diagnosis was important and demanded often a high degree of clinical skill. Clinical manifestations were to be found associated with the digestive, genito-urinary, cardio-vascular and other systems. A large majority of the cases of digestive disorder are caused by nervous exhaustion.

The disease may be associated with gastric ulcer, gall-stones, carcinoma, ovarian disease, latent tubercle, etc, symptoms of which mask the primary condition.

In dealing with neurasthenia it was necessary to consider the patient and not the disease. Some persons were born with a capacity to stand strain easily; with others the tables were turned with little trouble. The hereditary influence was beyond the control of the physician. The variable factor was environment—physical, mental and moral—which required close study.

Dr. Anderson does not agree with Dubois' dictum that "Nervousness in all forms is a pure psychosis." If the nervous system, weak by heredity, is exposed to excessive demands, worry, domestic or religious troubles, intemperate use of tea, coffee, etc., need it be wondered at that evidence of exhaustion develops? One could not look upon all these as psychic. Dr. Anderson then cited two typical cases which illustrated the fact that there are many factors beside the psychic to consider.

During the clinical progress of cases of neurasthenia, morbid conditions appear; the interference with nutrition leads to loss of weight and anemia. There is constipation, oxyluria, indicanuria, menorrhagia, which complicate the picture, and produce a vicious cycle. This must be broken both for the original disease and the epiphenomena as well.

Dr. Anderson then went rather fully into the symptomatology of the disease. He laid stress on muscular weakness, mental depression, irritability, lack of resolution, morbid introspection, occipital headache, insomnia, painful spots along the spine, iliac pains. Dr. Anderson made special mention of pain to the left of the umbilicus accompanied by aortic throbbing. He reported some cases in which this was a prominent symptom which had led to a suspicion of aneurysm.

A second class of cases showed a disturbance of function, cardiac and gastric. Three-fourths of the dyspeptics were suffering from nervous exhaustion and recover when treated for this condition. Hyperchlorhydria, intestinal fermentation, irritability of the bladder were often observed. Menorrhagia in many cases. Dr. Anderson thinks, is only a sign of defective innervation. He had had several cases where operation had been advised, which had recovered by treatment for the nervous exhaustion.

The essayist alluded to some of the physical derangements which may produce neurasthenia, and also alluded to the related disorders

of hypochondriasis and hysteria, and the possibility of an overlapping one of the other. The main points in the differentiation between hysteria and neurasthenia, was the contraction of the visual field in the former, a simple, though rough, method of detecting which he explained. In all suspected cases the thyroid should be examined.

Therapeutically, some cases require specialists and special hospitals and other facilities. Owing to the length of treatment and expense these can only be indulged in by the well-to-do. But a large majority of these cases look to the general practitioner for counsel. The rest cure and such are beyond the grasp of most people.

If the management of this disease is to be the province of the general practitioner he must: 1. Have a thorough acquaintance with the disease in all its bearings, its etiology and manifold clinical manifestations. The physician must be truthful, have tact, sympathy and firmness, confidence born of knowledge, kindness and resourcefulness. He must obtain the confidence of the patient in order to have his instructions carried out absolutely. His grip of the situation must never be relinquished. To vacillate or show doubt or make trifling changes at the suggestion of friends is to invite failure. The physician must be quiet, firm, clear-cut and specific.

The examination of the patient is a most important therapeutic measure. It must be systematic, detailed and thorough. Complete notes should be taken at the time of examination. The details of the patient's past life must be secured, with special reference to known causes of disease. The possibility of secret worries must not be overlooked. Some incident the patient has forgotten or overlooked may be the cause of the trouble. The essayist reported a case in point.

A sub-conscious impression of some previous event may be the cause of the mental condition.

Freud studies the dreams of some of these patients.

Dr. Anderson recited two cases of his own in which a psycho-analysis was made by Dr. Ernest Jones, of Toronto, with happy results. One case was that of a man who had lost all idea of his own personal identity and of time—knew absolutely nothing. Dr. Jones was able to get the patient's tangled ideas straightened, and the man made a good recovery.

Psycho-therapy is very useful in those cases. It has been practised by successful physicians in all ages. In recent years it has been studied more systematically, has been more elaborated and more definite rules for its application have been formulated. Dr. Anderson, in this connection, referred to the work of Dubois, Mitchell and Barker along this line.

For cases showing irritability, a short course of bromides may be prescribed. Strychnine and glyccero-phosphate do harm except in atonic cases. Mild aperients should be used. Sulphonal in 15 to 20 grain doses, taken in hot water, often acts admirably—often showing its effects the third or fourth night after. Diet should be plain and nutritious. Encouragement, personal suggestion and re-education, are the psychic influences commonly resorted to, and are at the command of the general practitioner.

The plan of treatment adopted should be within the patient's means, or an extra source of worry is added.

Medicines take a secondary place. Digestive introspection should be discouraged. Dr. Anderson cited the case of a woman who, not doing well at home, went to Germany, which meant a complete change. Here she was put practically on sausages, which she took remarkably well. She returned home fat and greatly improved. Fluids at meals should be limited, but sufficient between meals, in the morning and at bed time. Cold baths and cold affusions to the spine, followed by thorough rubbing, are helpful. As to electricity, its influence is largely psychic.

These patients should visit their physician two or three times a week, ostensibly for a change of medicine, but really for the benefit of a helpful interview. Patients must not discuss symptoms with anyone except the physician. Extravagant promises should not be made to the patient. In severe cases treatment may be protracted over a year or more. Bad cases should leave home for a fortnight or a month. Travel has a bad effect. The excitement of hotels is to be avoided. Sanitarium treatment is applicable to the wealthy classes. In severe cases in women good results follow the Weir-Mitchell treatment. Treatment in the wards of a general hospital is usually unsatisfactory.

The paper was well received and discussed heartily by most of the doctors present.

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Editorials.

SYPHILITIC AFFECTION OF THE LIVER

As Thomas Bryant, F.R.C.S., remarks, in his admirable Practice of Surgery, when discussing the pathology of syphilis: "The node on a bone, the nodule of lymph on the iris, the indurated, gummy tumor on the cellular tissue, or on a muscle, the puckered nodule of fibrous tissue beneath the peritoneal covering of the liver, the

mass of fibre tissue poured out in a syphilitic testicle, are all alike. They differ only in their symptoms and effects, according to their position, but whether they occur soon or late after the primary inoculation is a matter of no clinical importance."

Wilks observes, in "Guy's Reports," 1863: "The internal organs may be affected by syphilis equally with the external; not only the cranium, but the brain within it or the nerves; not only the muscles of the limbs and tongue, but the heart; not only the pharynx, but the esophagus; not only the larynx, but the trachea, bronchi and lungs, also the liver, spleen and other viscera. Professor Pel, of the University of Amsterdam, who has recently published a book on diseases of the liver, thinks that syphilitic affections of the liver are more common than is generally supposed, and that they are confounded with cirrhosis on the one hand and cancer on the other. He claims that gummata are generally situated on the left lobe and give rise to pain that is worse at night. He does not think that the existence of high temperature and cachexia should be held to exclude syphilis."

A case now receiving treatment from the writer of this note presents some of the characteristics of syphilitic affection of the liver denoted by Professor Pel. The patient, a man of 45 years, began to suffer from pain and distress in the epigastrium, December 25th, 1908. Ascites began to appear shortly afterwards; he lost 10 lbs. in weight in two months' time, and was not relieved by medical treatment given for dyspepsia and liver disease. Coming under the writer's care May 30th, 1909, examination revealed a hard, flat mass on the left lobe of the liver, moving downwards and upwards during respiration, which was tender on pressure, though not to a marked degree. Ascites was well marked; no edema of feet; temperature was normal; auscultation and percussion revealed no abnormal conditions of heart or lungs. His pulse was intermittent. He also complained of slight asthmatic breathing in damp weather. His urine was normal in amount and character. His history showed that at fifteen years of age he had had a chancre for which a treatment of two months had been given. Since then he had been in the habit of taking a glass of whiskey before breakfast, for several years back.

The small daily amount of liquor taken by this patient and the absence of hematemesis or piles did not warrant a diagnosis of

alcoholic cirrhosis, although he had ascites. There was no cachexia or involvement of other organs and no jaundice, so that cancer of the liver was excluded. Hepatic abscess usually occupies the right lobe of the liver, and no pain in the right shoulder was complained of. There was a history of a chancre, a hard nodular condition of the left lobe of the patient's liver, with, however, a fair preservation of the patient's general health.

The patient's diet was arranged; alcohol and smoking forbidden; $\frac{1}{2}$ oz. magnesium sulphatis in 4 oz. water ordered before breakfast and the following medicines prescribed:

R. Mass. Hydrarg.....	
Pulv. Digitalis.....	
Pulv. Scillæ.....	āā gr. xx.
	M.
Ft. in caps. xx.....	
Sig: 1 sumat t.i.d.	
et R Potassii Iodidi.....	gr. 480
Aque.....	℥vi
	M.
Sig.: ʒi in ʒss lactis t.i.d.	

These medicines were taken during June, 1909. By July 15th the ascites had completely disappeared. He was then taking a dessertspoonful of the KI mixture, equal to 60 grains of KI a day. The pill was withheld on several occasions, but the KI mixture has been steadily given.

The result at present is satisfactory. The patient feels well, eats well, sleeps well and has returned to work. The hard nodular condition in the left lobe of the liver is still observable, on deep pressure, but not to the same extent, and there is little, if any, tenderness, and no ascites. The bowels move without a purgative. The pulse is not intermittent. There has been no ptyalism. There is a soft bruit with the first sound of the heart, which may be due to anemia. The treatment with the above-mentioned capsule is still continued, but iodide of sodium has been given instead of iodide of potassium.

The diagnosis of syphilitic disease of the liver seems justified, as success in such a disease depends on treatment with mercury and iodide of potassium.

J. J. C.

A PRIEST LOWERS THE DEATH RATE IN QUEBEC

IN Vol. 9 *Bulletin Sanitaire*, published by the Provincial Board of Health of Quebec, we notice that a certain parish priest of one of the best parishes in Quebec was successful in developing sound hygienic ideas among his people. Remarking one day the large mortality among infants in his parish, he came to the conclusion that the ignorance of their mothers and lack of proper care were principally responsible for the sad results. Speaking from the pulpit, he drew the attention of the mothers of children to their duties towards their offspring and enlarged on the proper care of infants. This effort was crowned with an immediate success; the mortality of new-born children in this parish fell to the half of what it had been before the sermon on hygiene was preached, and it is even remarked at the present time, that there is a marked emulation among the mothers of families in preserving the health of their children.

As indicative of the success which has followed the hygienic instruction given by the parish priest, the following statistics will be of value: Before the sermon was given to the mothers 19.78 per cent. of new-born children died in that parish; since then 8.53 per cent.; a saving of 18 lives in one parish in two years (1907-1908). Putting the monetary value of a human life at \$1,500, this would mean a saving of \$27,000 in two years. The editor of the *Bulletin Sanitaire* remarks that, though Quebec has the highest birthrate in the world, it loses by death more new-born children than any other civilized country. Now in France, the ancestral home of the French-Canadian people, the late Dr. Pierre Budin, of Paris, organized and carried out, under a Committee on Milk and Baby Hygiene, a series of consultations with the mothers who obtain milk for their babies from the committee's stations, and these consultations are still operative in France, saving the lives of thousands of children every year. In France there is, of course, more urgency to save every infant life than in Quebec, the birth rates in these countries being antipodal, the races identical. However, if French Canada is to keep in the front rank of progress in Canada, which essentially means a large voting population, her parish priests do well to exercise their enormous influence in enlisting their flocks under the

banner of hygiene. Only one would say, for the honor of scientific medicine, that such a noble tentative, so enlightened a departure from ancient neglect of life-saving, should emanate from, and be operated by, the physicians of the parish, instead of the parish priest.

J. J. C.

A PREMIUM ON FECUNDITY

PROFESSOR RICHET, the distinguished physiologist, of Paris, suggests that a premium should be placed on fecundity, the State giving \$100 for a second child and \$200 for each further addition to the family. He estimates that the result of this measure would be an increase of births to a million to twelve hundred thousand, instead of seven hundred and fifty thousand, which is the present rate in France. The cost is estimated at \$60,000,000 for the first year, and the amount would rise with the number of births. In four years Professor Richet looks for an increase of a million in the population, which he thinks would be cheaply purchased at the price of a thousand millions of francs. He proposes to raise the money by loan, or by taxing estates inherited by collateral relatives, to the amount of 50 per cent. or more, while a tax of 25 per cent. would be levied on that inherited by an only son. Professor Richet concludes his proposal by a statement that a premium given by the State for every child after the first is the *only* remedy for decrease of population by a low birthrate.

This is a serious indictment of the French people. Reduced to its last analysis, it means that a great number of married couples in France begin married life with a brake ever ready to be applied to prevent an undesirable number of children; that the application of this brake is influenced by economic conditions—in other words, the difficulty of getting three meals a day, the comforts of a home, a provision for old age, a dowry for the daughter, and some capital wherewith to start the son in business, a trade or a profession.

Professor Richet, who visited Canada in 1897, knows that the French race in Canada has been and is extremely prolific, probably the most prolific of any civilized race in the world. He knows that the proportion of children taught in Public Schools in Quebec is as high as it is in France. He knows that in Canada labor, industry, good sense and good will are prerequisites of economic success, as

well as in France. He is also aware that the people in Canada regulate the output of children and that the government in Canada does not, and is not called upon to, offer a bonus to the procreator of a large family. Then why the marked difference between the birthrate of Quebec and that of France? Professor Richet thinks a monetary consideration will fill the hiatus in the family of the French citizen and provide for a higher birthrate in France. We do not think Professor Richet's business-like proposal will meet with a favorable reception either from the legislators or the people. It would not be adopted by the legislature unless the bonus were called for by the people, or unless it were supported by the government. It is not likely to receive the active support of a pleasure-loving people, by whom two children are considered the utmost limit of provident parenthood. The bribe is not large enough. It is not likely that it will be dragged in against public opinion by the government of France, as its adoption would call for an increase in taxation. There are French men and women, who turn with disgust from the materialistic doctrine of a regulated paternity, and who leave to Providence the regulation of the number of their children. The masses of the French people are not of that mind. So much the worse for France as a nation. If French married couples have not the true paternal and maternal instincts; if they pin their faith to the utmost gratification of sense, with a regulated output of one or at most two children, it is time for the Franks from beyond the Rhine to take their places and root out their marital customs.

J. J. C.

A CANADIAN ELECTED PRESIDENT OF THE AMERICAN MEDICAL EDITORS' ASSOCIATION

THE American Medical Editors' Association, in electing, at the Atlantic City meeting, Dr. W. A. Young, of Toronto, as their President rendered justice to a worthy member of the medical press of Canada, and, by the same act, gave a convincing proof of their own liberality of sentiment. The compliment to Dr. Young was all the greater, as he was travelling in Europe at the time when his election took place.

At the next meeting of this Association, which will take place at St. Louis, Mo., in June, 1910, papers of interest to medical

editors and to the profession at large will be read. It is certain that Dr. Young will speak with no uncertain voice on those matters which are now agitating the profession in America and the independent medical press of Canada and America. His experience as a practitioner, as well as his close acquaintance with medical journalism, will lend additional importance to his utterances on such questions. We do not anticipate, but we hope that the wisest thought and hardest effort of the members of the American Medical Editors' Association will be given to the settlement of these matters. The grain is plentiful, but it wants winnowing. We feel confident that Dr. Young, as President of the American Medical Editors' Association, will merit the applause of that Association and the good-will of the medical profession of both countries.

J. J. C.

WHAT WILL THE MEDICAL COUNCIL DO?

ON going to press we believe that an important meeting is being held at Banff, composed of representatives from Manitoba, Saskatchewan, Alberta and British Columbia, for the purpose of arranging the details for a Central Examining Board for the four Western Provinces. Would it not be well for our Council to awaken from its Rip Van Winkle slumber to a sense of its responsibility and join with the Western Provinces in a Federation? Would it not be well for the profession at large to arise and insist that its Council either awake or else that it enter into its eternal rest and let better men with a wider range of vision direct the destiny of the medical profession of Ontario?

If this Western Federation becomes an accomplished fact—and it will at a very early date—Ontario may whistle long and lustily before she will be allowed to federate with them. The effect in Ontario will be great overcrowding in the profession, for it is the intention, we are told, to build a very high wall about the Western Provinces, and, with three large medical schools turning out graduates in this Province, it is only a question of time until almost any occupation in Ontario will be preferable to that of the family doctor.

The question will be asked, "But what can our Medical Council do?" It can do one or both of two things. A special meeting of the Council may be called to pass a resolution favoring a scheme of

reciprocal registration with the four Western Provinces, and it can also seek legislation at the coming session of the Provincial Legislature, asking that an "enabling clause" be added to the Medical Act in order that the Roddick Bill (The Dominion Act of 1902) may become effective for Dominion registration. s.

"ABOLISH THE TOAST HABIT"

IN a witty editorial in a recent issue of *Saturday Night*, we read with genuine pleasure, as far as amusement went, a description of the "Tap Water Toast" at the Director's Luncheon at the Exhibition, when Sir Charles Beresford was guest of honor. The editorial writer referred to maintains that it were better to abolish the toast habit, than to disgrace it by substituting water, instead of conforming to the old custom and honoring it in the good, old, strong, sparkling way. If Sir Charles Beresford were being entertained by our Governor, as the representative of Royalty, assuredly his host would conform to the "way of our grandfathers;" if a Canadian in his own home were entertaining, he certainly, too, would accede to custom; but, by a Board of Directors of a Public, yet National, Institution, who had (after considering the "pros and cons") at least an unwritten law about the serving of intoxicating drinks, they surely paid Sir Charles Beresford a graceful compliment by not breaking a rule on his account, and perchance arousing public criticism, bringing his name into unnecessary newspaper notoriety, thus causing a discordant note in his memory of their harmonious entertainment. Sir Charles Beresford accepted the usual hospitality of the Directors of the Exhibition, honored it, and was honored by it.

A guest at public or private functions always shrinks from the "especially you" kind of entertainment.

The Exhibition Directors, in our humble opinion, are to be congratulated on their true measure of the mind of a gentleman.

As for the toast habit in general, at public dinners in this land, if it is our pleasure why should we not abolish it, as far as the raising of the glass is concerned? In this new country, let us reach out and lead, the old paths are not necessarily for our feet. Let the liquid element of our after dinner speeches be in the tones of the

voice of the speakers, the sparkle in their witticisms, the pop of the corks—the laughter at their stories. Of course this is only a doctor's prescription, which, true to its type, must contain—
"Aqua ad."

W. A. Y.

COLLIER'S "PRIZE" FOR A CANADIAN NATIONAL ANTHEM

MERCY E. POWELL M'CULLOCH.

O Canada! in praise of thee we sing,
From echoing hills our anthems proudly ring,
With fertile plains, and mountains grand,
With lakes and rivers clear,
Eternal beauty thou dost stand
Throughout the changing year.
Lord God of Hosts! we now implore,
Bless our dear land this day and evermore,
Bless our dear land this day and evermore.

Dear Canada! for thee our fathers wrought,
Thy good and ours unselfishly they sought.
With steadfast hand and fearless mind
They felled the forest domes,
Content at last to leave behind
A heritage of homes.
Lord God of Hosts! we now implore,
Bless our dear land this day and evermore,
Bless our dear land this day and evermore.

Blest Canada! the homeland that we love,
Thy freedom came a gift from God above.
Thy righteous laws, thy justice fair,
Give matchless liberty;
We thank our God that we may share
Thy glorious destiny.
Lord God of Hosts! we now implore,
Bless our dear land this day and evermore.
Bless our dear land this day and evermore.

It is with pleasure that we tender congratulations to Mrs. Powell McCulloch upon attaining the "Collier" Magazine Prize, for her strong and effective words written as a "suggestion" for a Canadian National Anthem.

The restriction in the competition was to write words suitable

for an anthem and yet in harmony with the music of "O Canada," composed by a French-Canadian called Calixa Lavallee, who departed this life in eighteen hundred and ninety.

Mrs. McCulloch had a difficult task, and has succeeded so well that her words decidedly call for better music. While the song ripples along like soft breezes through forest and glade all is well, and as a hymn the music fulfils its mission perhaps. It is when the words strike broadly, grandly, we look for a strong sharp chord filled with, not only hopefulness, but courage, even the strength of battle—and we hear—an Amen. Canada is young, yet laughing in its morning, and throwing kisses to the rising sun, even its noon-day guerdons not yet won. Surely true Canadians will not be content to chant a vesper hymn.

Mrs. McCulloch is a real Canadian, the gifted daughter of our esteemed confrère, Dr. Newton Albert Powell, and the wife of a Canadian physician, Dr. McCulloch. Long may Mrs. McCulloch sing the songs of her own land, twining her "lily work" around its strength.

W. A. Y.

THE CANADIAN MEDICAL ASSOCIATION

THE 1909 meeting of our National Association will go down in history as the most largely attended, up-to-date, and one of the best, also from a scientific standpoint. It was the 42nd Annual Meeting, and was held from the 23rd to the 25th of August at Winnipeg. Nearly 350 members registered and paid their fees, now amounting to \$5.00 per annum. The Local Committee of Arrangements are to be congratulated upon their work, as everything turned out most satisfactorily. Everyone present, with few exceptions, took part also in the social end of the meeting and enjoyed the entertainments to the full. The Addresses in Medicine and Surgery were delivered by two well known Montreal physicians, Professor Adami and Dr. James Bell, and those on Obstetrics and Ophthalmology by two equally good men in the persons of Drs. Adam H. Wright and R. A. Reeve, of Toronto. The addresses can be best described as masterpieces, each one showing careful study and research. The Symposium on the Kidney and the discussion on Interprovincial Registration both called for free expression of opinion before good audiences.

The resolution re Dominion Registration, which was unanimously adopted, reads as follows: "Therefore I (Dr. R. W. Powell) move that this Canadian Medical Association, now in session, urge upon Dr. Roddick the great importance of impressing upon the Government and Parliament of Canada the desirability of so amending the Canada Medical Act of 1902 that when five or more provinces agree to the provisions and pass the necessary legislation to make it effective, the bill may become law, and apply to those provinces which have so legislated. That in order to strengthen Dr. Roddick's hands a committee be formed of representatives from each of the provinces to consult with him on the provisions of the bill and as to the amendments necessary or desirable, and finally that the various colleges of physicians and surgeons or Provincial Licensing Boards in the Dominion be respectfully invited to nominate at least one of their own number to serve on such committee."

We take the opportunity of congratulating Dr. C. J. C. O. Hastings, of Toronto, Dr. Westbrook, of Minneapolis, and Messrs. McGill and Rutherford, Chief Analyst and Veterinary for the Dominion respectively, upon their work in connection with the Milk Commission, though we feel sorry that these gentlemen were not favored with better audiences when this subject came up before the meeting. The question of the publication of an official journal for the association came up, and the Finance Committee were instructed to go ahead and publish *The Journal of The Canadian Medical Association*. We have taken the opportunity of expressing ourselves in these pages before on this particular topic and do not feel called upon to say anything further, beyond the fact that, as a business proposition, it is all wrong. It might be wiser if the association were to be content to wait for a sufficient length of time to permit of their having the necessary funds to their credit in the bank before launching a scheme that will, we fear, end in signal failure. It is hardly right to entail a personal financial responsibility upon the officers of our association in future years, something that may crop up unless the treasurer has in hand some thousands of dollars in order to carry the journal to success, a work that cannot be done inside of several years.

The election of Dr. A. H. Wright to the Presidency was indeed a good choice, there being no gentleman in the profession who commands greater respect than Dr. Wright.

The officers elected for the ensuing year were: President, Dr. Adam H. Wright, Toronto; General Secretary, Dr. George Elliott, Toronto; Treasurer, Dr. H. B. Small, Ottawa; Vice-Presidents and Local Secretaries, the presidents and secretaries of the provincial medical societies *ex officio*; Vice-President for the Province of Quebec, Dr. Normand, Three Rivers; Local Secretary for Quebec, Dr. R. P. Campbell, Montreal; Finance Committee, Dr. J. T. Fotheringham, Toronto (Chairman), Dr. F. N. G. Starr, Toronto, Dr. S. J. Tunstall, Vancouver, Dr. Murray MacLaren, St. John, N.B., Dr. James Bell, Montreal, and the President and General Secretary; Chairman of Committee on Medical Legislation, Dr. A. T. Shillington, Ottawa; Chairman of Committee on Medical Education, Dr. R. A. Reeve, Toronto; Chairman of Committee on Hygiene and Public Health, Dr. A. T. Shillington, Ottawa; Chairman of Committee on Amendments to Constitution and By-Laws, Dr. H. B. Small, Ottawa; Chairman of Committee on Reports of Officers, Dr. E. Ryan, Kingston; Chairman of Committee on Necrology, Dr. J. H. Elliott, Toronto; Chairman of Milk Commission, Dr. C. J. Hastings, Toronto.

Dr. R. A. Reeve, Toronto, was elected Chairman of the Executive Council, and the following members thereof were in attendance: Elected by the Association—Dr. R. W. Powell, Ottawa; Dr. A. T. Shillington, Ottawa; Dr. Murray MacLaren, St. John, N.B.; Dr. R. A. Reeve, Toronto; Dr. John T. Fotheringham, Toronto; Dr. J. H. Elliott, Toronto; Dr. Chas. J. Hastings, Toronto; Dr. J. C. Mitchell, Brockville, Ont.; Dr. Ingersoll Olmsted, Hamilton; Dr. J. George Adami, Montreal; Dr. Edward Ryan, Kingston; Dr. H. A. MacCallum, London, Ont.; Dr. H. G. McKid, Calgary; Dr. James Bell, Montreal; Dr. R. A. Kennedy, McLeod, Alberta. Representing Nova Scotia Medical Society—Dr. John Stewart and Dr. George M. Campbell, Halifax. Representing the Ontario Medical Association—Dr. D. J. Gibb Wishart and Dr. F. N. G. Starr, Toronto. Representing Manitoba Medical Association, Dr. Harvey Smith (President), Dr. R. S. Thornton, Deloraine, and Dr. S. W. Prowse, Winnipeg. Representing British Columbia Medical Association—Dr. S. J. Tunstall, Vancouver.

The 1910 meeting will take place in Toronto next June.

W. A. Y.

EDITORIAL NOTES.

What is Beauty.—Dryden, the poet, once said, in response to a question as to the most beautiful piece of writing he had seen, that it was the signature on a cheque for one hundred pounds. It may be that the poet needed the money badly and his impecuniosity may have enhanced his admiration for the handwriting of the writer of the cheque.

One would say that doctors, more hard-headed than poets, should be able to look after their monetary concerns, and so skirt financial pitfalls, that any remarks about collections would be uncalled for. To practice medicine successfully one must be well equipped mentally—we were going to say physically—but let that pass. The last generation loved a good-looking doctor, one who filled the eye and could charm the ear—the present one goes to an hospital and is put under the skilful scalpel of an ordinary-looking gentleman, who has the reputation of doing good surgical work. Does he get large fees? Rumor hath it that he groweth wealthy—but the anesthetist in one case had to recover his own fee in the Division Court.

Etiology is a noble study; diagnosis a bewildering puzzle which bothers us as long as we practise medicine; treatment, something to learn and much to avoid. But do not forget, my brothers, to look after the dollars. Just as one of the most glorious objects in nature is, not the wheat, but the seventy, eighty, ninety cents a bushel it brings, delivered at the elevator, so is the almighty dollar to the practising doctor. Earn money, and see that you get it.

Dr. Harrower's Test for Acidity of the Urine.—Excessive acidity of the urine may be due to uric acid and hippuric acid or an increase in the diacid phosphates of sodium and potassium. But little attention appears to be paid to the estimation of the amount of the acidity of the urine. Litmus paper is used as a test for acids; but the change of blue litmus to red is of course merely a qualitative test.

Dr. Harrower, Chicago, describes, in a pamphlet entitled "A Study of the Urinary Acidity and its Relations," a method of obtaining the urinary acidity. A measured quantity of urine, say 10 grammes, is treated by adding to it 3 drops of tr. phenolphthalein,

and then, drop by drop, some of the decinormal solution of sodium hydrate is dropped into it, until a pinkish color appears and remains after the urine is shaken—thus proving that the acid of the urine has been neutralized. The quantity of the decinormal solution used in this test is then multiplied by ten to reduce the figures to terms of 100 cc. This is the acidity in degrees or percentage, but must not be taken for the percentage of acidity in the sample of urine. This figure multiplied by the number of cubic centimeters of urine passed in 24 hours gives the number of acid units passed.

It is an arbitrary standard, but may serve as a guide to a practitioner, showing deviations of the acid content in the sample from the normal, and it will thus be useful. As an instance of increased acidity of the urine, due to a dietetic cause, Professor Carriere (*Journal de Médecine et de Chirurgie*, March 25, 1909) describes the case of a girl aged 6 who suffered from dysuria for 3 or 4 days, having to strain 20 to 25 minutes before emptying the bladder. Analysis of the urine showed it to be 4 or 5 times the normal acidity (4.55 instead of 1.1 or 1.2). The excess of acidity was found to be due to excess of oxalic acid, and analysis showed its presence in five times its normal amount. The patient had eaten a considerable amount of the leaves of sorrel. Under milk diet the dysuria ceased in 48 hours, and, four days later, the oxaluria had disappeared.

Dr. Cook Discovers the North Pole.—North America, South America, Europe, Asia, Africa, Australia, and the continent of Greenland will rise to doff the hat to the gallant American doctor, who has discovered the North Pole. Dr. Cook, like his namesake, Captain Cook, who first circumnavigated this globe, will leave a deathless name. We feel proud to belong to a profession which can breed such men as Dr. Cook, whose motto has been, "Ever Onward!" who meets difficulties only to overcome them, who, almost alone and single-handed, has done what the science, bravery, endurance and wealth of some of the greatest nations of the world have in vain tried to do.

Transmission of Variola to the Calf.—E. Mader has reported (in *Munch. Med. Woch.*, April 30, p. 810) a case of successful transmission of human variola to the calf.

Lymph was taken from an unvaccinated infant suffering from smallpox, before the stage of suppuration, rubbed up with glycerine and immediately used for vaccinating a calf. The calf was isolated from other calves which had been vaccinated with vaccinia. On the fourth day a typical pustule had formed. Five days later lymph was taken from the pustule, and 13 days later was successfully used for vaccinating a second calf. Fourteen days later the first calf was vaccinated with calf lymph without result, that is, the inoculation with human variola protected against vaccinia. A third calf was then vaccinated from the second one and the lymph obtained from it utilized for vaccinating over 70 children, without any untoward result, such as the appearance of generalized vaccinia. The pustules produced in the calf by the human variola matured much later (2 days) than did those produced by the usual strain of calf lymph.

Should a Lacerated Perineum or a Lacerated Cervix Uteri be Sutured Immediately?—In the address on Obstetrics at the British Medical Association Meeting this year, Sir John Byers endorsed the immediate suture of any laceration of the genital canal, if such had occurred during labor. For this teaching he is taken to task in an editorial which appeared in the *British Medical Journal* (August 7th, 1909, p. 334). Far be it from an humble colonial editor to fall foul of the arguments in this editorial of the *British Medical Journal*, but they do not commend themselves to our judgment, particularly that one in which it is said that a “perineal laceration is useful in shortening the duration of subsequent labors.” We know not if this argument will be accepted as conclusive by ladies in Great Britain and Ireland, but we think it will not be accepted graciously by the ladies of Canada. From the standpoint of esthetic surgery it is defective. The best that can be said for it, is that if an obstetrician has done his duty, inspected the genitalia after labor, found a lacerated perineum, and decided to let it go unstitched, the subsequent drainage of the birth canal would be easier, and the chances of sepsis less than if it had been sutured.

The teaching of Sir John Byers is upheld at the Rotunda Hospital, Dublin, and is accepted by many obstetricians in private practice the world over. Sewing the lacerated perineum is, of course, painful to a woman who is not placed under the influence

of an anesthetic, and as an unchloroformed primipara with a torn perineum naively remarked when the sutures were being introduced, "It would be just as well to sew up the passage entirely, and so prevent the recurrence of the stitching."

From the standpoint of obstetrics, immediate suturing of the lacerated perineum is the best course to pursue; but the operation should be done when the patient is under chloroform and her vagina should be carefully douched with antiseptic washes during the subsequent lying-in period.

If the patient has been chloroformed during the second stage of labor, the stitches may be inserted while she is yet unconscious. Salmon gut, a large, curved needle and a needle-holder should be placed ready to the hand in a basin before the birth of the child.

In rare cases, when, after the birth of the child, a hot vaginal douche fails to stop bleeding from a torn cervix uteri, it may be necessary to introduce sutures. Salmon gut, passed through either lip of the torn cervix, is used as a tractor to pull down the injured part out of the vulva. The rent is then sewed up, by sight, with catgut sutures. This method was first described by Veit.

J. J. C.

PERSONALS.

DR. R. J. WILSON recently spent two weeks in Muskoka.

DR. AND MRS W. B. THISTLE spent the month of August in the West.

DR. N. A. POWELL enjoyed a few days in the Adirondacks last month.

DR. A. J. JOHNSON holidayed in New Brunswick, returning home early in September.

DR. HELEN MACMURCHY has returned to town after spending a pleasant holiday in the West.

DR. and Mrs. W. A. Young returned from Europe a month ago after spending three months abroad.

DR. W. E. GALLIE, Dr. Stanley Ryerson and Dr. Geo. S. Strathy removed on the first instant from 169 College Street to 143 College Street.

DR. F. A. CLELAND announces that he has opened an office at 134 Bloor Street West, Toronto, and that he will devote his attention to gynaecology.

AMONG the members of the profession in Toronto who have been in Europe during the past summer are Drs. H. A. Bruce, Brefney O'Reilly, A. H. Garratt, E. H. Adams, T. S. Webster. Mayburry, Alex. Primrose, W. J. Greig, Alex. McPhedran, R. A. Reeve, Oswald Dinnick and W. H. B. Aikins.

Obituary.

DEATH OF DR. JAMES FULTON, OF ST. THOMAS

DR. JAMES FULTON, one of the most prominent physicians in St. Thomas, died on September 15th in Victoria Hospital, London, following an operation. Dr. Fulton attended the medical convention in Winnipeg, and on his return from the West went into the London Hospital for treatment and never rallied from the operation.

Deceased was born in Southwold 58 years ago and was the son of James Fulton, a pioneer of Elgin County. He received his early education in St. Thomas and graduated from Trinity Medical College, Toronto, and received diplomas from the College of Surgeons, of London, England, King's and Queen's Colleges, Dublin, and the College of Physicians, Edinburgh. The doctor also took an active part in the affairs of the city and was chairman of the Board of Health, President of the Amasa Wood Hospital, and was surgeon of the Michigan Central R. R. at the time of his death. A widow survives.

News of the Month.

THE QUEEN ALEXANDRA SANATORIUM

The Queen Alexandra Sanatorium (under Her Majesty's Patronage), which is to be opened early next Autumn, is destined to rank high in the list of the National Sanatoria of cosmopolitan Davos. But though national it will be unique in welcoming patients from all parts of the world and not only from the Empire, but from the States, as it was founded for the benefit of all English-speaking nationalities, the only qualifications needed being evidence of medical suitability, and of inability to meet the heavier cost of treatment at hotels or private institutions. The following notice, which appeared in the British Medical and other Journals, has been forwarded to us by the joint Honorary Secretary, Dr. William Ewart, as of special interest to some of those who may be visiting Europe from over the seas:

"The prospective opening of the Queen Alexandra Sanatorium at Davos for the reception of patients early in this autumn was announced from the chair at the sixth annual meeting of the Council, held at 11 Chandos Street, Cavendish Square, W., on July 16th. by the President, the Lord Balfour of Burleigh, Kt., P.C., who has laboured so long and successfully in the difficult task of raising funds. A splendid donation of £25,000 lately received from a munificent sympathizer, who desires that his name shall not be published, not only supplies the amount required to complete the work and to open the sanatorium free from debt, but provides means for its scientific equipment and for future extensions. It should be mentioned that Lord Stratheona, with his well-known zeal in the promotion of all charitable and useful works, not long ago gave a donation of £2,000 for the purposes of the sanatorium. For the present the sanatorium will accommodate 54 patients, all in single rooms. But the public rooms are designed for a full complement of 120 patients. The Davos Invalids' Home, the original foundation of the late Mrs. Lord, which for so many years was the only representative of our national charity in Davos, has now ended its task and fulfilled the purpose for which it was initiated—that of developing into a National Sanatorium. The Home had been granted Her Gracious Majesty's patronage as far back as 1899."

REVISED LIST OF ASSOCIATE CORONERS FOR THE CITY OF TORONTO

Dr. W. H. B. Aikens, 50 College Street; Dr. Thomas Armstrong, 1 Cottingham Street; Dr. Clarence Wm. Brand, 1036 Bloor Street, West; Dr. Carson Henry Britton, East Toronto; Dr. Wm. Britton, 17 Isabella Street; Dr. W. P. Chamberland, 646 Bathurst Street; Dr. G. W. Glendennan, Dundas Street, West; Dr. J. M. Cotton, 218 Simcoe Street; Dr. Malcolm McL. Crawford, 22 Cottingham Street; Dr. Charles J. Currie, 175 College Street; Dr. John T. Clarke, 410 Bloor Street, West; Dr. J. T. Duncan, 165 Bloor Street, East; Dr. John E. Elliott, 69 Bloor Street, East; Dr. W. J. Hunter Emory, 14 Carlton Street; Dr. Charles H. Gilmour, Annette Street; Dr. George W. Graham, 249 Avenue Road; Dr. Wilmot A. Graham, 862 College Street; Dr. W. J. Greig, 493 Sherbourne Street; Dr. Walter P. Geikie, 52 Maitland Street; Dr. Richard R. Hopkins, Pacific Avenue; Dr. Arthur Jukes Johnston, 52 Bloor Street, West; Dr. Adam M. Lynd, 33 Melbourne Avenue; Dr. Homer D. Mason, Dundas Street West; Dr. Alexander C. Mavety, Annette Street; Dr. Alfred E. Morgan, 813 Lansdowne Avenue; Dr. William James McCollum, 92 Shuter Street; Dr. John Herbert McConnell, 625 Dundas Street; Dr. M. D. McKiehan, 673 Broadview Avenue; Dr. John Noble, 219 Carlton Street; Dr. Rowland B. Orr, 1596 Queen Street, West; Dr. Latimer Pickering, 37 Wilton Crescent; Dr. Edward Playter, 762 Broadview Avenue; Dr. Newton A. Powell, 167 College Street; Dr. George G. Rowe, 1329 Queen Street West; Dr. Solomon Singer, 194 Simcoe; Dr. George B. Smith, 92 College; Dr. R. J. Wilson, 20 Bloor Street West; Dr. Frederiek Winnett, 525 Sherbourne Street; Dr. W. A. Young, 145 College Street.

THE INTERNATIONAL CONGRESS OF MEDICINE AND SURGERY AT BUDAPEST

THE Canadians attending the International Congress of Medicine and Surgery at Budapest, Hungary, report that the Congress was a great success from a scientific point. Drs. G. Sterling Ryerson, Alexander McPhedran and W. H. B. Aikens, Toronto, were presented at a Court, held by order of the Kaiser, as official delegates from Canada. The other Canadians present at the reception were Drs. Bruce and Primrose, of Toronto; Dr. Casgrain, of Windsor; Drs. Meek and Drake, of London; Dr. Halpenny, of Winnipeg. and Dr. King, of Cranbrook, B.C.

THE MINNEWASKA

THE Minnewaska, the new health resort located at Gravenhurst, Muskoka, which is under the management of Mrs. E. G. Fournier, formerly Superintendent of Hope Hospital, Fort Wayne, Indiana, has now been open for the care of tubercular patients for the past six months.

That there was a great need of just such an institution has been amply demonstrated, for from the very first week of its existence it has taken care of all the patients it could possibly accommodate, both in the main building and in a number of tents erected on the beautiful and spacious grounds.

The management are gratified to know that their efforts to supply a long-felt want are being recognized by so many physicians throughout the country, who were anxious to place their tubercular patients under the care of Dr. C. D. Parfitt, the well-known specialist. That the patients and their friends all feel kindly toward the institution has again been lately demonstrated. The room formerly occupied by Miss Jean Heugh McKay, who was the first patient registered, has been beautifully furnished by her parents, Mr. and Mrs. Forrest McKay, of New Glasgow, Nova Scotia. The furniture, which is exquisite, is of white enamel and gold, and the decorative features are of Miss Jean McKay's favorite designs. A brass nameplate in her honor has been placed upon the door.

A Sanitarium for Alcoholic and Drug Patients.—Dr. Givens' Sanitarium for nervous and mental diseases at Stamford, Conn., has a separate department for alcoholic and drug patients, and the statute of Connecticut permits such patients to voluntarily commit themselves for a period not exceeding one year. The regular, systematic life under medical supervision is excellent. Write Dr. Givens, Stamford, Conn., for particulars.

The Physician's Library.

BOOK REVIEWS

Naval Hygiene. By JAMES DUNCAN GATEWOOD, M.D., Instructor in Naval Hygiene United States Naval Medical School, Washington; Medical Inspector United States Navy. Prepared by direction of the Bureau of Medicine and Surgery, and published by permission of the Navy Department. With eight colored plates and 105 other illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1909.

This excellent work on Naval Hygiene covers in all over seven hundred pages. As the author has occupied for some years a prominent position as Instructor in Naval Hygiene in the United States Naval School at Washington, it can be fairly assumed that anything proceeding from his pen will possess considerable merit. Though we have not as yet had the time to go through the work as we intend, our study of it shows that the book is one worthy of careful perusal. It contains eight colored plates and 105 other illustrations, and is dedicated to the memory of Dr. Geo. Balfour, who entered the Medical Staff of the United States Army in 1792. The title page contains the following epitaph to Dr. Balfour and which was written by himself:

"Long had my spirit wandered in this vale of tears,
Fearful, yet anxious still, to venture home,
Till trusting wholly in God's grace, it left its fears,
Then boldly cried—I come—I come—I come!
His blood as shed in Christ can wash the sinner white,
His blood can heal each raging, rankling wound!
'Tis His to raise the mouldering dead again to light,
Crowned with glory triumphant from the ground."

The book consists of, in all, eight chapters, devoted to such subjects as "Naval Vital Statistics," "Air Without the Ship and air within the Ship," "Light without and light within the Ship," "The Ship's Water Supply and Drainage," "The Navy's Food," "The Navy's Clothing," "Disinfection of the Ship," "Naval Re-

cruiting." Dr. Gatewood has certainly given to the profession a book that will be found valuable by all who are interested in the Naval Service. The health of the crew on board a ship is too important to be neglected, and, up till a few years ago, was not given the attention that it deserved. There is no reason why modern hygiene and up-to-date sanitation should not apply just as much to the ship as to the ordinary household, and we think that Dr. Gatewood's work, if placed in the hands of all ship surgeons, would cause the vessel in their charge to be very materially benefited and the health of the crew improved.

W. A. Y.

Physical Diagnosis. By RICHARD C. CABOT, M.D., Assistant Professor of Medicine in Harvard University. Fourth Edition, revised and enlarged. With five plates and two hundred and forty figures in the text. New York: William Wood & Company.

The fourth edition of Dr. Cabot's work on *Physical Diagnosis* is satisfactory, in the main. All his statements we do not accept. For instance, he thinks that in most cases the effects of pyorrhea alveolaris appear to be local. We know that a cure of pyorrhea alveolaris has arrested a gradual loss of weight and procured a gain of 10 lbs., no medicinal or dietetic agency, no changed habit of life being causative of the increase of weight.

Dr. Cabot's favorable notice of immediate auscultation is sound. It is a pity that this direct method of listening to lung or heart sounds is not generally used. One point in its favor is, that few physicians hear sounds equally in both ears. This reason would also be in favor of a stethoscope with but one ear piece, probably of the Bowles' pattern.

Dr. Cabot corrects an error in the text books—respecting the so-called blue line in the gums in lead poisoning—showing that the disposal of the lead sulphide is in the gums, not on them; that it is not a line, but a series of dots and lines; that the dots are gray-black, and that when there are no teeth, there are no such dots.

It would be a vain task in a book notice to endeavor to review or criticize the very numerous statements in this book. Dr. Cabot attempts no description of such methods as cystoscopy, ophthalmoscopy, laryngoscopy, while recognizing their importance and utility. All that he describes he knows by prolonged use, which is such as naturally falls to the skilled internist.

The author's plan of getting at an organ, *e.g.*, the kidney—by palpation, thermometry, urinalysis—enables one to reach a safe conclusion in an obscure case.

The author's style is clear and scholarly. The study of his

book will enable a physician to be more observant of essentials, more rational in diagnosis.

Numerous diagrams and radiograms add to the value of the descriptions of cases. The book itself is creditable to the publishers.

J. J. C.

The Secret of Sex. The discovery of a new law of nature: How sex is caused. By E. RUMLEY DAWSON, L.R.C.P.. London; M.R.C.S., England; Fellow of the Royal Society of Medicine; Late Member of the Council of the Obstetrical Society of London. New York: Cochrane Publishing Co., Tribune Building. New York.

This is a pamphlet of sixty pages, giving the views of the author on this subject, which is so little understood. Mr. Dawson's theory is that the sex of the fetus is not due in any way to the male parent, but depends on which ovary supplied the ovum which was fertilized and so became that fetus. He finds that a male fetus is due to the fertilization of an ovum that came from the right ovary, and a female fetus is due to the fertilization of an ovum that came from the left ovary. The pamphlet makes interesting reading.

Treatment of the Diseases of Children. By CHARLES GILMORE KERLEY, M.D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital, etc. Second revised edition. Octavo of 629 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$5.00; Half Morocco, \$6.50 net. Canadian Agents, The J. F. Hartz Company, Ltd.

The second edition of this work is in every detail up to date. Mr. Kerley gives a full succinct account of the action of Flexner's antimeningitis serum—methods of use and technique thereof. He also in this chapter gives clinical tables showing results obtained from its use in different parts of the world. This chapter is extremely well written and it alone demands a new edition of his work, the serum and its properties having been proven since the first edition came out. We can only repeat our criticism on the first edition. It is eminently practical, no padding, just simple truths from a very practical man of vast experience and great power of observation. The chapters given to vaccine therapy are written in clear, easily digested, dogmatic language—he strongly advises its use, where applicable, as a diagnostic agent. Of course every man interested in children knows of the thorough work done by him amongst the children in New York, on the subject of summer diarrheas. This masterly article alone is worth the price of the

work. The print and illustrations reflect the highest credit on the well-known house, W. B. Saunders Co., of Philadelphia.

A. B.

Diet in Health and Disease. The new (3rd) edition. By JULIUS FRIEDENWALD, M.D., Professor of Diseases of the Stomach in the College of Physicians and Surgeons, Baltimore; and JOHN RUHRAH, M.D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Third revised edition. Octavo of 764 pages. Philadelphia and London: W. B. Saunders Company. 1909. Cloth, \$4.00; half morocco, \$5.50 net. Canadian agents, The J. F. Hartz Company, Limited.

It seems but a short time since the second edition of this book came from the press, and that the third edition should be published so soon goes to show that the volume has met with the approval of the profession generally. We notice upon the title page that the volume is dedicated to William Osler "As a slight token of our appreciation of his personal friendship, of many favors, and of the encouragement he has always given the members of the profession." "Diet in Health and Disease" may be correctly termed "a practical hand-book for everyday use," and the authors have thoroughly revised their pages, bringing it in every respect up-to-date.

Semmelweis, His Life and Doctrine. A Chapter in the History of Medicine. By SIR WILLIAM J. SINCLAIR, M.A., M.D., Professor of Obstetrics and Gynecology in the University of Manchester, Manchester. At the University Press. 1909.

In reviewing this excellent volume, written in honor of a man who deserves every good word spoken of him, we feel that we cannot do better than quote the first three paragraphs of the author's introduction.

"In the history of Midwifery there is a dark page and it is headed 'Semmelweis!' What man could close his eyes to the powerful impression of his book? Even now at the present time there are whole pages of his deductions which might stand in the most modern work. And the annihilating logic of his statistics! We younger men for whom antipathies were unthinkable, to whom the reading of coarse tirades about 'genius misunderstood,' was only tedious, we often find it incomprehensible that the logical conclusions of the doctrine of infection were nowhere drawn; I mean the local treatment; it was the keystone of the arch, the crown of the whole structure. . . . The efficient application of disinfection midwifery owes without doubt to surgery: most certainly it ought to have been the reverse. If the conclusions and counsels of Sem-

melweis had been followed, then the truth of his doctrine would have been demonstrated in the compelling language of statistics, and so perhaps Obstetrics would have stood in the forefront of the greatest advance in medicine which has been made since physicians and physic came into existence.'

"Such are the generous but justly appreciative terms in which Fritsch, then of Breslau, referred to the author of the "Die Aetiologie, der Begriff, und die Prophylaxis des Kindbettfiebers" a quarter of a century since.

"The claim which Fritsch made for the Semmelweis doctrine and its practical applications must be conceded by all unprejudiced men, who are fairly well acquainted with the history of obstetrics. In the whole history of medicine we find a clear record of only two discoveries of the highest importance in producing direct and immediate blessings to the human race by the saving of life and the prevention of suffering. There were the discoveries of Edward Jenner and Ignaz Phillip Semmelweis."

The book is most interesting and gives the history of this wonderful man, his parentage and nationality, his life in Vienna, the spread of his doctrine during the Vienna period, his life in Buda Pesth, the spread of his doctrine in Great Britain and France, the publication of "Die Aetiologie" and his last illness and death. Buy the book and read it, it is well worth it.

W. A. Y.

The Malarial Fevers, Hemoglobinuric Fever and the Blood Protozoa of Man. By CHAS. F. CRAIG, M.D., Captain Medical Corps U. S. Army; Attending Surgeon New York City; late Pathologist and Bacteriologist to the Sternberg U. S. Army General Hospital, Chickamauga Park, Ga.; The Josiah Simpson General Hospital, Fortress Munroe, Va.; The Camp Columbia Hospital, Havana, Cuba; The U. S. Army General Hospital Presidio of San Francisco, Cal.; The Division Hospital, Manilla, P.I.; Late Member of the U. S. Army Board for the Study of Tropical Diseases in the Philippine Islands; Member of the Society of Tropical Medicine and Hygiene, London; The American Society of Tropical Medicine, and the National Association for the Study and Prevention of Tuberculosis. Illustrated by four colored plates, twenty-five clinical charts and twenty-eight photomicrographs and drawings. New York: Wm. Wood & Co., 1909.

Many of our readers will remember, and have no doubt read the author's work "The Aestivo-autumnal (Remittent) Malarial Fevers" published eight years ago. Such advances, however, have been made in the prophylaxis of malaria during the past decade,

that a new book from the pen of the same writer is a welcome addition to the literature on Remittent Fevers. The reader of this book will find that it contains all of the most recent theories and advances made in their treatment. The volume covers in all nearly five hundred pages and is divided into seven parts: Part one covers The Etiology of Malarial Fevers; part two, The General and Special Pathology of The Malarial Fevers; part three, The Symptomatology and Clinical Varieties of The Malarial Fevers; part four, The Sequelae, Complications and Prognosis of The Malarial Fevers; part five, The Diagnosis, Prophylaxis and Treatment of Malarial Fevers; part six, Hemoglobinuric Fever, and part seven, The Blood Protozoa of Man. As the author gives us his views and experiences as gained in the United States Military Hospitals, including Cuba and the Philippines, it will be seen that his book is one worthy of careful study.

Aids to the Analysis of Food and Drugs. By C. G. MOOR, M.A. (Cantab.), F.I.C., Public Analyst for the County of Dorset and the Borough of Poole; late Public Analyst for the City of Exeter; and WILLIAM PARTRIDGE, F.I.C. Third edition. London: Bailliere, Tindall & Cox, 8 Henrietta St., Covent Garden. 1909.

This is a most trustworthy book for the use of students of chemistry and public health officers. The part dealing with dairying is particularly complete, and contains a vast deal of information not in the usual text-book, arranged in the most practical manner for facilitating study and reference. It cannot be surpassed as a chemist's working book.

Third Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum. By ANDREW BALFOUR, M.D., B.Sc., F.R.C.P., Edin.; D.P.H., Camb.; Director Fellow of The Royal Institute of Public Health, The Society of Tropical Medicine and Hygiene and The Society for the Destruction of Vermin; Member of the Incorporated Society of Medical Officers of Health, and the Association of Economic Biologists; Corresponding Member Société de Pathologie Exotique; Medical Health Officer, Khartoum, etc. Published for Department of Education, Sudan Government Khartoum by Bailliere, Tindall & Cox, 8 Henrietta St., Covent Garden, London. 1908. Depot for The Dominion of Canada: Toga Publishing Co., 101 Coristine Building, St. Nicholas St., Montreal.

The Third Report of The Wellcome Research Laboratories, as

carried out at The Gordon Memorial College at Khartoum, has just come to hand, and the editor is certainly to be congratulated upon the latest compilation of the work under his immediate charge. When it is mentioned that the patron of The Gordon Memorial College at Khartoum is His Majesty the King, and the President, Lord Viscount Kitchener, of Khartoum, with as Honorary Treasurer, The Right Honorable Lord Hillingdon, it will be realized that the work being done is of a highly scientific character. The Third Report contains a wealth of information which can be best described by our giving a summary of its contents as follows: Introduction. Trypanosomiasis in the Anglo-Egyptian Sudan. Hemogregarine of the Jerboa. Hemogregarine of *Rhamphiophis rubropunctatus*. Piroplasmiasis in the Anglo-Egyptian Sudan. Spirochetosis of Sudanese Fowls. Routine Work. Miscellaneous Notes. Sanitary Notes, Khartoum. Sleeping Sickness and the Bahr-el-Ghazal Province.

By the Director. Additional Notes dealing with Sleeping Sickness in Uganda, by R. G. Archibald. Kala-Azar in the Anglo-Egyptian Sudan, by S. Lyle Cummins. Observations on Kala-Azar in Kassala Province, by L. Bonsfield. Report of the travelling Pathologist and Protozoologist, by C. M. Wenyon. On some interesting Reptiles collected by Dr. C. M. Wenyon on the Upper Nile. The Poisonous Snakes of the Anglo-Egyptian Sudan, by Dr. Franz Werner. An account of some Helminthes contained in Dr. C. M. Wenyon's collection from the Sudan, by Robert T. Leiper. Report on Economic Entomology, by Harold H. King. New Mosquitoes from the Sudan, by Fred. V. Theobald. The Healing Art as Practised by the Dervishes, by Hassan Effendi Zeki. The Native Methods of Treatment of Diseases in Kassala and Neighborhood, by L. Bonsfield. Additional Notes, by Sir R. Baron von Slatin Pasha. Medical Practices and Superstitions amongst the People of Kordofan, by R. G. Anderson. Report of the Physical Characters of some Nilotic Negroid Tribes, by D. Waterston. Notes on Ethnographical Specimens collected by Dr. A. MacTjer Pirrie, by J. D. Vallance. Report of the Chemical Section, by William Beam. Notes on the Chemistry of Sudan Gums, by E. S. Edie.

Along with the Third Report we have received a supplement of the same, "A Review of some of the more Recent Advances in Tropical Medicine," by Drs. A. Balfour and R. G. Archibald. Amongst its contents will be found chapters on the following subjects: Ainhum, Air, Akatama, Animals, Ankylostomiasis, Anthrax, Bacteriology, Beri-beri, Beverages, Bilharziosis, Blackwater Fever, Blood, Bubo, Calabar Swellings, Cancer, Cerebro-Spinal Fever, Chickenpox, Chigger, Cholera, Climate, Clothing, Dengue, Dhobie

Itch, Diarrhea, Diphtheria, Disinfection, Dropsy, Dust, Dysentery, Elephantiasis, Enteric Fever, Feces, Fevers, Filariasis, Filters, Flies, Food, Food Poisoning, Guinea Worm, Hematozoa, Heat Stroke, Hydrophobia, Ice, Infectious Diseases, Influenza, Insects, Leishmaniosis, Leprosy, Liver Abscess, Malaria, Malta Fever, Measles, Milk, Mosquitoes, Mycetoma, Myiasis, Onchocerca, Oriental Sore, Parasites, Paratyphoid Fever, Piroplasmiasis, Bovine, Canine, Plague, Scorpion Sting, Scurvy, Sewage, Skin Diseases, Sleeping Sickness, Smallpox, Snake Bites, Spider Bite, Spirochetes and Spirochetosis, Spruce, Staining, Syphilis, Ticks, Tropical Medicine, Trypanosomiasis, Tsetse Flies, Tuberculosis, Typhus Fever, Vaccination, Veterinary Diseases, Water, Weil's Disease, Whooping Cough, Yaws, Yellow Fever.

We appreciate the receipt of these volumes and we feel that they are scientific in the highest sense of the word, and worthy of a great deal more than the price charged by The Toga Publishing Company, of Montreal, who have been authorized, on behalf of The Department of Education of The Sudan Government, to undertake the issue in the Dominion of this report.

Golden Rules of Venereal Disease. By C. F. MARSHALL, M.D., F.R.C.S., Late Assistant Surgeon to the Hospital for Diseases of the Skin; Formerly House Surgeon to the London Lock Hospital, etc. "Golden Rules" Series No. xvii. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Company, Limited.

This is one of a series of "vest pocket" manuals on different subjects, and in a clear, terse way it certainly covers the main points of venereal disease in splendid style.

Hard and soft chancres and gonorrhea are the subjects dealt with. In each case the etiology, pathology, symptomatology and treatment are well considered in a brief way. As far as it goes this little book is well worth reading, and many helpful hints are to be gained from it.

N. K. W.

Medical Jurisprudence, Forensic Medicine and Toxicology. By R. A. WITTHAUS, A.M., M.D., Professor of Chemistry, Medical Jurisprudence and Toxicology in Cornell University, and TRACY C. BECKER, A.B., LL.B., Counsellor at Law, Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. With the collaboration of August Becker, Esq., A. L. Becker, Esq., Chas. A. Boston, Esq., Hon. Goodwin Brown, W. N. Bullard, M.D., G. C. Cameron, M.D., J. Clifton Edgar, M.D.,

Jas. Ewing, M.D., E. D. Fisher, M.D., A. S. Geyser, M.D., J. C. Johnson, M.D., D. S. Lamb, M.D., H. P. Loomis, M.D., W. B. Outten, M.D., Roswell Park, M.D., J. Parmenter, M.D., Irving S. Rosse, M.D., E. V. Stoddart, M.D., Geo. Woolsey, M.D., J. H. Woodward, M.D. Second edition. Volume Three. New York: William Wood & Co. 1909.

Volume Three of Witthaus and Becker is a fitting close to one of the most important works on medical jurisprudence that has been published for years. Besides containing an index of the three volumes, Volume Three opens with a table of the cases cited therein, enabling one to promptly refer to the subject under investigation. Amongst the contributors to Volume Three we find the names of such men as Drs. J. H. Woodward, E. D. Fisher, C. A. Boston, Goodwin Brown, A. S. Geyser, Jas. Ewing, in addition to Drs. A. L. and T. C. Becker. We take this opportunity of complimenting Dr. A. S. Geyser upon his chapter on "Medico-Legal Relations of X-rays and Skiagraphs." The half-tone illustrations of some fracture cases are among the best we have seen in some time. The contribution by Dr. Jas. Ewing on "Medico-Legal Examinations of Blood and Other Stains and of the Hair" is particularly good, as also that by the author himself on "The Medico-Legal Relations of Insurance."

Nouveau Traite de Chirurgie. Publie sous la direction de A. LE DENTU et PIERRE DELBET. *Maladies Des Os.* Pl. MAUCLAIRE. Paris: J. B. Bailliere & Fils, 1908.

A brief sketch of the history of bone pathology as here given is most interesting, recounting its development from the time of Hippocrates and Galen to the latest conclusions following from radiography and bacteriology.

The subject of bone disease is presented under the following heads:

- (1) Infectious lesions of bone.
- (2) Parasitic affections.
- (3) Those due to chemical poisons (phosphorus, mercury).
- (4) The trophic or nervous osteopathies—
 - (a) Atrophic.
 - (b) Hypertrophic.
- (5) Bone neoplasms.

Although information relevant to the subject has been garnered from many sources yet one is forced to conclude that the author has but little acquaintance with English or that very little has been added to the sum of our knowledge of bone diseases by men outside of the continent of Europe.

The illustrations are excellent and numerous and help greatly in elucidating a subject not always clearly apprehended by the student.

Although sufficiently full the text is not marked by the prolixity which frequently characterizes continental—especially German—writers.

This volume is but one of a new treatise upon surgery, edited by Le Dentu and Delbet, and will be a very helpful addition to the surgeon's reference library.

B. E. M.

Text Book of Embryology. By FREDERICK RANDOLPH BAILEY, A.M., M.D., Adjunct Professor of Histology and Embryology, College of Physicians and Surgeons (Medical Department of Columbia University), and ADAM MARION MILLER, A.M. Instructor in Histology and Embryology, College of Physicians and Surgeons (Medical Department of Columbia University). New York: William Wood & Co. Price, \$4.50 net.

The above text book is the fullest and most pretentious text-book on Embryology which has yet appeared in English. Like many American productions of a similar kind the criticism may be perhaps raised against it that it is largely a compilation and that in the sources from which the information is drawn a strictly critical spirit is not always preserved. On the other hand, however, equally characteristic of American book making, is the wealth of beautifully reproduced illustrations drawn from original articles. These add very much to the value of the book from the standpoint of the student and especially of the practitioner who has more or less lost touch with the modern advances in Embryology.

The work is divided into two parts. The first part, which occupies 165 pages, is devoted to general development. The second part, which occupies the remainder of the book, is much the larger, taking 464 pages, and is devoted to organogenesis. In this portion especially the illustrations are extremely valuable, many of them being from embryonic reconstructions, which have added so much to our proper understanding of the subject. The last chapter of this part is devoted to the interesting question of Teratogenesis. There is also a good appendix upon the general technic of Embryology.

The general tendency of the book is to devote most space to human embryology, but this is not done to the exclusion of comparative work when it is necessary to elucidate the human problems.

The general practitioner who wishes to know how our knowledge of human development is progressing will find this work most interesting reading, and it can be recommended to the student for

the clear way in which the subject is approached and especially because of its really excellent illustrations, J. J. M.

Bier's Hyperemic Treatment in Surgery, Medicine and all the Specialties. A Manual of Its Practical Application. By WILLY MEYER, M.D., Professor of Surgery at the New York Post-Graduate Medical School and Hospital, and Professor Dr. Victor Schmieden, Assistant to Professor Bier at Berlin University, Germany. Second Revised Edition. Octavo of 280 pages. Illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$3.00 net. Canadian Agents, The J. F. Hartz Company, Limited, Toronto.

We reviewed this work rather fully a short time ago, and though this is a second edition there is very little that is new in it, except some rather interesting case reports. There is added, too, an index to the literature on the subject of Bier's treatment, which will be useful. Bier's treatment has a place in the therapeutic armamentarium of the up-to-date practitioner, and should be carefully and thoughtfully studied by all. F. N. G. S.

International Clinics. Volume I. XIX Series. A quarterly of illustrated lectures and especially prepared original articles on Treatment. Medicine, Surgery, Neurology, Pediatrics, Obstetrics, etc., etc., by leading members of the medical profession throughout the world. Edited by W. T. Longcope, M.D., Philadelphia, U.S.A. *International Clinics* is published by the J. B. Lippincott Company, Philadelphia.

The first volume of this well known work amply sustains the reputation which it has achieved, and contains much excellent matter dealing with various subjects.

In medicine an exceedingly interesting paper is furnished by Campbell P. Howard, M.D., of Montreal, on the diseased condition which is accompanied by painless symmetrical swellings of the lachrymal parotid and the other salivary glands. To this condition the name Mikuliez's Disease has been applied. The author reports a large number of cases of this rare disease. The author believes that this disease is to be grouped with leukemia and Hodgkin's Disease, and that it is due to an infectious process, which in this case gains access through the conjunctivae.

Acute Tubercular Rheumatism is the subject of a second paper by Poncet and Lencke.

A most instructive article is from the pen of Prof. Landowsky, of the Paris Academy of Medicine, on a tubercular condition, to which he applies the name Typhobacillasis. Typhobacillasis has a very close resemblance to typhoid fever, but is really a tubercular blood infection. The author was the first to point out this resemblance

twenty years ago. Fever, enlargement of the spleen and bacillary septicemia are the striking features in this disease. It is easy to understand that frequently it is mistaken for typhoid fever. In many cases where typhoid fever was thought to be followed by tuberculosis the case was really one of tubercular infection from the first.

Nerve Grafting in Facial Paralysis is the subject of a paper by Freeman, of Denver, with report of a case of anastomosis between the hypoglossal and facial nerves.

In the pathological section an extensive article is from the pen of W. G. McCallum, M.D., of Baltimore, on the Physiology of Absorption from the Peritoneal Cavity.

The volume contains many other articles, each with its interesting features. One might mention "Neurovascular Disturbances of the Nose," by Grayson, of Philadelphia; "Suppuration in Appendicitis," by E. M. Conner, M.D., F.R.C.S., Eng., London; Excision of Hip in Arthritis Deformans.

Progress of medicine during the year 1908 occupies one-third of the volume and briefly deals with the many advances in the various departments of medicine.

W. B. T.

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Original Contributions.

SUBACROMIAL BURSITIS AS A CAUSE OF STIFF AND PAINFUL SHOULDERS*

BY HERBERT P. H. GALLOWAY, M.D.,

Orthopedic Surgeon to Winnipeg General Hospital; Lecturer in Orthopedic Surgery, Manitoba Medical College; Member of the American Orthopedic Association.

THE surgeon's advice is frequently sought by patients who complain of pain and stiffness in the shoulder joint, yet it is safe to say that the true nature of the lesion from which most of these patients suffer is usually unrecognized, and such vague diagnostic names as rheumatism, fibrous ankylosis, periarthrititis, contusion, brachial neuritis and circumflex paralysis are applied to the condition in ignorance of the fact that in the vast majority of instances the symptoms are the result of inflammation of the subacromial bursa.

Under the name of periarthrititis, Duplay in 1872 and Putnam in 1882 described the clinical condition in certain examples of this class of cases very accurately; Douglas Graham in 1884 gave a summary of the pathology of periarthrititis of the shoulder joint; and in 1902 Kuster published an important paper on subacromial bursitis; but it is to E. A. Codman, of Boston, who worked out the subject independently in ignorance of the earlier paper by Kuster, that we are indebted for the only really satisfactory contribution to this subject, and his two papers in 1906 and 1908 are most enlightening regarding a frequent but hitherto obscure class of cases. It was the writer's good fortune to be present at a clinical demonstration before the American Orthopedic Association given by Dr. Codman in Boston in 1906, just before he published his first paper, and also in June of the present year at another demonstration be-

*Read at the Annual Meeting of the Canadian Medical Association at Winnipeg, August 25, 1909.

fore the same Society of some of his later observations. Both of these demonstrations were beautifully clear and convincing, and ever since the first of them I have had frequent occasion to remember Dr. Codman with gratitude, as I have from time to time found myself easily able to recognize and treat rationally and successfully a class of cases which before 1906 I always found exceedingly puzzling.

A paper by Painter, of Boston, and another by Baer, of Baltimore, have appeared since Codman's first article was published.

In bringing this subject before the Canadian Medical Association at the present time I have no more pretentious purpose than to attempt to increase interest in this highly important surgical condition by presenting a partial digest of the contributions of Codman and others, and by reciting some typical clinical histories of some of my own cases.

ANATOMY.

The bursa under consideration is sometimes referred to as the subacromial bursa, and sometimes as the subdeltoid. With the arm adducted it is partly subdeltoid, with the arm abducted it is wholly subacromial; the relative size of the two portions is, therefore, dependent upon the position of the arm. While usually single, occasionally there are two distinct bursae, or the subdeltoid may be separated from the subacromial portion by a thin serous septum. Painter and Baer state that the bursa is about the size of a silver half-dollar; Codman says that one of his smallest specimens measures $2\frac{1}{2}$ inches in diameter and that he has seen many that are larger; in some dissections made by the writer it was not found less than 2 inches in diameter.

The bursa lies immediately beneath the acromion and the fibres of the deltoid, and its inferior surface is closely adherent to the capsule of the shoulder joint. Its floor is largely formed by the tuberosity of the humerus and the tendinous expansion of the supraspinatus, its roof by the acromion process and the coraco-acromial ligament and the fibres of origin of the deltoid. Normally the bursa does not communicate with the joint.

ETIOLOGY AND PATHOLOGY.

The causes of subacromial bursitis may be grouped under two heads (*a*) trauma, (*b*) infectious processes. Being a serous sac, the bursa is, of course, vulnerable to the same disease-producing influences as other serous spaces, such as the pleura, peritoneum, joints, tendon sheaths, etc.; and the same pathological changes take place in the bursa as in the other serous sacs. By all means the most frequent cause is traumatism, usually a blow on the shoulder or a sudden twist or wrench; but over-use and unaccustomed use must also be ranked as traumatic causes. Among the infectious

processes mention may be made of rheumatism, gonorrhea, tuberculosis and suppurative infections. The walls of the bursa may be normal, or more or less thickened, and fibrous adhesions may unite the serous surfaces, producing a partial or complete obliteration of the cavity. Painter reports having seen villous enlargements sufficiently dense to give a definite X-ray shadow, although no demonstrable deposit of lime salts was associated with the villi. There may be an excess of thin serous fluid within the sac, or cheesy, fibrinous or calcareous material may be encountered. Codman emphasizes the frequent occurrence of a partial rupture of the tendon of the supraspinatus near its insertion into the tuberosity, or even the detachment of a chip of bone at the point of insertion of the central portion of the tendon.

SIGNS AND SYMPTOMS.

Inasmuch as subacromial bursitis may be met with in the acute, subacute or chronic form, the sign and the symptoms necessarily present considerable variation in different cases, but pain and limitation of motion are common to all types of the affection. The location of the pain varies. It may be felt in the front part of the shoulder or along the outer side of the arm, and may even extend to the hand; sometimes it is felt in the neck, resembling a brachial neuritis; quite frequently the insertion of the deltoid is the chief painful part, and the patient thinks his trouble is located at this point. There is often much discomfort at night; tenderness on the side of the lesion makes it impossible for the patient to lie on the affected side, while an intolerable dragging pain is experienced if he lies upon the well side or the back, so that it is at times almost impossible to assume a position which allows comfortable sleep. Local tenderness at the most prominent point of the shoulder in front is frequently present. This point is just below the acromion process and to the outer side of the bicipital groove. Limitation of motion may be due wholly to muscular spasm, to absolute mechanical restriction of movement brought about by adhesion of the roof and floor of the bursa, or to both of these causes combined. Lateral elevation (abduction) and rotation are the motions which are chiefly restricted; forward and backward motion of the humerus is often almost normally free. The limitation of abduction is well shown by asking the patient to raise both arms above the head. The unaffected arm will be quickly and easily raised to the perpendicular, but the affected arm will be arrested before it has been raised to a horizontal position. The restriction of rotation makes certain necessary movements awkward or impossible. As Codman says: "A characteristic complaint is the inability to put the arm back of the neck or behind the small of the back; if women they cannot do their back hair; if men they cannot button the back of

the suspenders." There is always, however, a certain range of free movement at the joint proper before scapular motion is brought into play. This amounts to about ten degrees and represents the degree of motion which is possible before the function of the bursa is called into play. Absence of this free motion indicates that there is disease of the true joint. "Beyond an arc of about ten degrees the scapula accompanies the humerus in all its motions, whether active or passive." In exceptional cases, by careful palpation, effusion into the bursa or an unnatural puffiness at its site can be demonstrated. In certain of the chronic cases the signs and symptoms are typical. Almost the full arc of motion is possible, but certain motions and positions are painful, or at least uncomfortable. If asked to raise the arm high above the head the patient can do so, but, instead of carrying out the movement freely and with directness he may lurch to one side or give the arm an irregular twist. The peculiarity is due to the fact that at a certain point the movement causes pain, which the patient has learned by experience can be mitigated somewhat by executing the movement in some irregular way; once past the tender place the balance of the movement is free and direct. The discomfort may nearly or wholly disappear for days or weeks at a time and then become troublesome again. In some of these irregular cases the return of discomfort is coincident with vague rheumatic manifestations in other parts of the body. Some patients who do not suffer from actual pain are conscious of a roughness or crepitating sensation in the region of the bursa during certain movements; in one of my own cases this crepitation is felt by the patient during the process of stropping his razor. In many of these cases the trouble is due to some irregularity or roughness in the bursa, such as would be produced by thickened folds or villous fringes; calcareous deposits and small osteophytes will also sometimes be found. Finally, in cases of long standing an appreciable degree of atrophy of the muscles about the shoulder will be noticed, especially the supraspinatus, infraspinatus and deltoid.

DIAGNOSIS.

I shall not attempt to take up the differential diagnosis in detail. The history of the case and a painstaking examination, aided by a careful clinical analysis, should nearly always enable the surgeon to differentiate with certainty between subacromial bursitis and other affections giving rise to somewhat similar symptoms. Practically, the point of greatest importance in diagnosis is to determine whether the trouble is in the bursa alone or whether the shoulder joint is involved. When the bursa alone is affected a small range of painless motion is always possible, even when the scapula is firmly held; when the true joint is involved the fixation is often practically absolute. In disease of the true joint muscular atrophy

sets in earlier and is more pronounced. In bursitis palpation of the joint from the axilla is painless, but if the joint be diseased tenderness may be very evident. Codman has pointed out that the relative position of the humerus and scapula are not the same when the joint is diseased, as in bursitis. When the joint is diseased the angle between the humerus and the axillary border of the scapula is less acute than in bursitis. The X-ray often affords valuable information in doubtful cases, the radiographic appearances in tuberculosis or in osteo-arthritis being too characteristic to admit of doubt. Codman considers at length the differential diagnosis between subacromial bursitis and brachial neuritis, and by a very satisfactory line of reasoning reaches the conclusion that in most cases of so-called brachial neuritis subacromial bursitis is the primary cause of the symptoms.

Formerly many cases of subacromial bursitis were classed as circumflex paralysis, owing to the inability of the patient to abduct the arm. We now know that true circumflex paralysis is very rare, but when present it may be readily recognized by the complete absence of contraction in the fibres of the deltoid when the patient attempts to abduct the arm. In subacromial bursitis the deltoid may be much atrophied, and voluntary abduction to more than a slight degree may be impossible owing to the pain and spasm, but some contractile effort can always be detected by the palpating fingers when the patient makes a determined effort to raise the arm.

PROGNOSIS.

Most cases of subacromial bursitis tend to spontaneous recovery, the length of time required for the subsidence of symptoms varying from a few weeks to several years. The prognosis in recent acute cases is very favorable under good management, but there can be no doubt that unwise treatment frequently delays recovery, the physician insisting on unnecessarily prolonged fixation in the sling position under the impression that a long period to rest is necessary; the result is that firm adhesions form between the surfaces of the bursa and recovery is thereby retarded. Even the chronic adherent cases, however, are prone to gradual improvement, with ultimate more or less complete restoration.

In the irregular type of cases in which pain is excited only by certain motions and positions of the arm, the symptoms are apt to alternately appear and disappear almost indefinitely.

The prognosis is less favorable in cases of infectious origin than in those due to traumatism.

TREATMENT.

Obviously no routine plan of treatment is applicable to an affection which may be acute, subacute or chronic when it first

comes under observation, and the pathological changes in which may vary from simple effusion to dense adhesions. In recent acute cases rest is imperative, but it is highly important to avoid keeping the arm constantly in the sling position; *the arm must be rested in the abducted position.* If kept at rest in a sling or by means of a Velpeau bandage, adhesions quickly form and abduction soon becomes impossible; within a short time the case of acute bursitis has become one of chronic stiff and painful shoulder. While the patient is recumbent on the back the arm should be supported on pillows in a position of right-angled abduction, the elbow flexed and the hand directed towards the head of the bed. When sitting the arm may be supported in abduction on a pillow laid on a table placed at the patient's side; or a splint of plaster of paris, wire or other material suitably shaped may be applied, and the patient allowed to walk about. I have found it very convenient to form a splint from plaster of paris bandages, shaped to fit the side of the trunk and the arm while the patient lies on his back with the arm abducted; after the plaster hardens the splint can be fastened about the trunk with adhesive plaster, or a cotton or flannel binder, and comfortably bandaged to the arm and forearm. Such a splint may be worn comfortably by the patient while in bed, as well as when in the upright position; it may be removed once or twice daily if desired to permit the arm to be gently placed by the side for a brief period. Warm applications afford comfort in this, as in many other acute inflammatory conditions. If necessary anodynes may be employed and aspirin or other suitable remedies may be administered if a rheumatic element be suspected. In cases which have reached the subacute or chronic stage pain is apt to be less acute, although it may still be decidedly distressing. The chief difficulty now is stiffness, which at this stage is due less to muscular spasm than to the mechanical impediment to motion which the adhesions constitute. Several alternatives are open to the patient. If no treatment is received gradual improvement will occur in many cases, the symptoms disappearing largely or entirely in a period varying from a few months to several years. Massage, passive and active exercises, and baking will afford comfort and hasten recovery. In a very large proportion of cases, however, operation is advisable if the patient desires relief as speedily as possible. Forceful manipulation under an anesthetic, followed by fixation of the arm for several days in a position of abduction and external rotation, will produce immediate improvement, but careful after-treatment must usually be continued for some weeks if the final result is to be perfectly satisfactory. This after-treatment consists chiefly in massage and exercises; it is especially necessary that each day the patient shall persist in putting the arm into the position of extreme abduction and external rotation. I have found

it an excellent plan to have the patient lie on his back on the floor and then gradually raise the arm to the desired position, being assisted, if necessary, by a nurse or other attendant. If this be done carefully two or three times a day adhesions will not re-form, and but little pain or irritation need be excited.

On the whole, however, if operation be decided on it is better to cut down upon the bursa and dissect out as much of it as is accessible or else incise it and directly divide or excise all adhesions. In those atypical cases already referred to where the pain is felt only during certain motions or positions of the arm, nothing short of direct exploration will reveal the cause of the trouble, or enable us to remove the thickened folds of membrane, villous fringes, calcareous deposits, etc., which are usually responsible for the irregular symptoms. Open operation, if skilfully performed and sufficiently radical, will afford a permanent cure in a far shorter time than any other method of treatment.

A. M., 72 years. This patient consulted me on May 23rd, 1907. Three months before I saw him he was passing out of the door of his barn when a sudden violent gust of wind arose; fearing the door would be swung open so violently as to break it, he tried to hold on to it, but in doing so was pulled over and fell upon his left side and shoulder. Ever since that time the shoulder has been painful and motion limited. Was treated by having arm placed at rest by keeping it bandaged to the side of the body. There is distinct tenderness in front at the most prominent point of the shoulder; slight independent motion occurs at the shoulder joint proper, but in attempts to abduct or rotate the arm or to carry other motions beyond a very limited range the scapula moves very freely with the humerus, and any attempt to force movement causes severe pain. Characteristic attitude when asked to raise both hands above head. Can get hand to back of head, but it is difficult to get it behind the small of the back. Diagnosis, subacromial bursitis. Treatment: Under anesthesia adhesions were broken down; the arm was then put up in an attitude of extreme abduction and external rotation on plaster splint; after-treatment consisted of massage, active and passive exercises. Patient improved slowly, but after a few weeks wrote that his condition was more satisfactory than he ever expected it to become.

Mrs. R. E. G., age about 40 years. Patient consulted me May 21, 1907. Four months previously she had slipped on the stairs while grasping the hand rail and had fractured the left arm near the wrist. Recovery had not been satisfactory, and she consulted me about the deformity and impaired function. For this I advised a course of treatment by massage, hot-air baking, active and passive movements. The following day the patient mentioned incidentally that the motion of the shoulder on the affected side was greatly

restricted. On examination I found considerable muscular atrophy about the shoulder, and the range of movement at the joint proper, independent of the movement of the scapula on the chest wall, was very limited; abduction to any large degree was impossible, and when the patient attempted to hold both arms high above the head attitude was characteristic. The patient could not put her hand behind her head, and complained that she could not do up her back hair; was also unable to put the hand behind the waist. Diagnosis of subacromial bursitis. Under anesthesia adhesions were broken down. There was so much roughness and crepitation immediately following the rupture of the adhesions as to suggest the possibility of the humerus having been fractured. Arm put in an attitude of abduction and external rotation on a plaster splint and the usual after-treatment was carried out. Patient made a highly satisfactory recovery within a few weeks.

J. A. W., adult male, age not stated in notes. Consulted me on August 8, 1907. Four years ago had an attack of pneumonia, and about a week after the beginning of this illness the right shoulder became very painful and has been stiff and sore ever since. Diagnosis of subacromial bursitis probably of infectious origin. Advised that the bursa be removed. Patient declined treatment, and has passed out of observation.

Mrs. H. A. D., 24 years. States that shoulder has given almost constant trouble during the past ten years; has been stiff and painful. Attributes her trouble to working by an open window for six or seven months at millinery work. The trouble is somewhat better during the hot summer weather. Lately the pain has been going down the arm to the wrist. Shoulder moves to almost normal range, but movement is guarded and occasions more or less pain, and the grating of the surfaces of the bursa upon one another can be plainly felt, and even the patient is conscious of the roughness. Advised excision of the bursa. Patient declined treatment and passed out of observation.

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DIAGNOSIS AND TREATMENT OF OCCIPITO-POSTERIOR POSITIONS

BY FREDERICK FENTON, M.D., C.M.,

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Mr. Chairman and Gentlemen,—Much has been written upon the subject of occipito-posterior positions, but it appears to me that our text-books still leave something to be desired in this matter. It is my intention to confine my remarks to two aspects of the case, viz.: diagnosis and treatment, and as briefly as possible.

First let me say that in my experience *unrecognized* occipito-posterior positions have led to more difficulties during labor and more invalidism afterward than all the other dystociae in labor put together. Hence I would say that the early recognition of position and presentation is of more importance than is usually accorded it. It is *best* that this early recognition be accomplished by abdominal palpation, prior to the commencement of labor. The signs may be divided into two classes, viz., suggestive and corroborative.

The latter group are most fully dealt with in the many excellent works on obstetrics, but insufficient attention appears to me to be given to the *suggestive* signs of this condition.

Every third year student can tell you that the finding of the anterior fontanelle in front, or the posterior behind, settles the question beyond a shadow of doubt, but that does not help the practitioner who is unable to reach either fontanelle in the early stages and who finds the presenting part covered by a large caput succedaneum in the later stages, through which he can feel nothing.

Everyone here can probably recall such experiences, when, after all was over, he realized that he had made a mistake, but too late to save the baby's life or the mother's pelvic floor, to say nothing about the twenty-four or more hours of agonizing pain endured by the mother, the greater part of which was wholly unnecessary.

It is not my intention to go into the details of abdominal palpation, nor of the external signs indicating the position under discussion; to those familiar with this method of diagnosis such is unnecessary; to others I would suggest the advisability of becoming familiar with it by reference to some work on the subject.

One point in abdominal signs which should always be remembered is that every *right* occipito case should be suspected of being a posterior, even though the indications are that it is anterior.

The head normally enters the brim in an oblique diameter; the left oblique diameter being shortened by the rectum, the head more

readily enters in the right diameter. This, I believe, is the reason why "First" and "Third" positions are more common than "Second" and "Fourth." If the position is not L. O. A. it is most apt to be R. O. P. Some contend that, owing to the frequent changing of the position of the fœtus in utero, the results of abdominal palpation are uncertain. In this connection I would reply that I cannot recall a single instance in which a clear diagnosis of L. O. A. made two or three weeks before labor was found to have rotated to a posterior, though I have seen R. O. A.'s rotate, or, at any rate, prove to be posteriors, and occasionally a posterior rotate to an anterior. So that, if I have diagnosed L. O. A., I can be assured that such will still be found to be the case at labor, but if such a diagnosis could not be clearly made, then I must suspect that a posterior position may have to be dealt with and govern myself accordingly. Our first "suggestive" sign may therefore be said to be that the case is not evidently an L. O. A. The second in order of sequence is the occurrence of "false" pains during the last week or ten days of pregnancy.

These are not necessarily present, of course, but when they are they are strongly "suggestive" of posterior positions, being more frequently met with in such cases than in anterior.

Early rupture of the membranes is prone to occur in any deviation from the normal presentation and position, and hence must be looked upon as "suggestive" of this as well as other deviations from the normal.

The os uteri at term is, in almost every instance, in a favorable condition for ready dilatation if the normal forces are brought to bear upon it in a normal manner. Where such dilatation is unusually slow and the os not unduly hard, and especially when the partially dilated cervix is directed backward so that the examining finger impinges on the anterior wall of the cervix an inch or so above its lip, which is only reached with difficulty, a posterior position should be at once "suggested" to the examiner's mind.

The backward displacement of the cervix is due to the shape of the head, which naturally elongates toward the occiput in labor.

The posterior fontanelle is carried far back toward the sacrum, or may be delayed at the brim and entirely out of reach, while the anterior fontanelle is above the symphysis, and at this stage could not be readily reached even with a normally placed cervix, while under the existing circumstances it is entirely removed from the examining finger.

Difficulty, therefore, in gaining entrance to a partially dilated cervix and a feeling after digital examination that one has gained little information, should be taken as a "suggestive" sign of posterior position.

An occipito-anterior presentation is usually easily recognized,

so that failure to recognize the landmarks should suggest a posterior position of the occiput.

The text-book *positive* signs of the condition are as familiar to you as to me and need not be repeated here.

If the membranes have ruptured it becomes, to my mind, imperative that we settle the question definitely as soon as possible, and especially is this the case if it be found that the liquor amnii escapes even in small amount *during the pains*.

The escape of "water" during the pains means that the lower uterine segment is not "corked" by the presenting part, so that the "water" is forced past by the uterine contractions. Such escape, even in small amount, oft repeated, soon exhausts the supply and the child's body becomes gripped by the uterine muscle, which gradually moulds itself more or less to the form of the fœtus. The result is that the expulsive efforts are to a large extent neutralized and the uterus quickly exhausts itself in fruitless efforts. This gripping of the fœtus by the uterus in "unrecognized" cases is the main obstacle to the performance of the only scientific line of treatment, viz., rotation.

When this has occurred the use of brute force is the only thing that can be done as a rule; it is then too late to consider the plan which I am about to advocate in the management of these cases. To be successful an early recognition must be made, at least soon after the membranes have ruptured, but, better still before labor has begun.

Where I am still in doubt after the membranes have ruptured I do not hesitate to administer an anesthetic and pass the hand sufficiently far to feel an ear. I must confess that where it becomes important to form a correct diagnosis promptly, I prefer not to trust too much to sutures and fontanelles unless these are readily felt. As I have already stated, in the early stages they are apt to be out of reach, and later on to be obscured by a caput succedaneum.

Management—First Stage of Labor.—The management of the first stage consists in the preservation of the membranes and reasonable control of pain.

The preservation of the membranes is promoted by the recumbent posture, combined with gentleness and infrequency in the making of vaginal examinations.

The control of pain may be accomplished by one of the methods advocated for first stage anesthesia, of which I prefer morphia, with or without hyoscine.

Once the membranes have ruptured, in the presence of active contractions, a definite time limit should be put upon the case. I am in the habit of making this three hours as a rule, but do not necessarily follow this rule blindly. The question to ask ourselves is not, Why should I interfere? but rather, Why should I not

interfere? Unless this last question can be answered by definite indications for non-interference, the main one being that the head is advancing so rapidly that it is evident that I need not do so, I would proceed to make preparations, and put them into effect within the time specified in the majority of cases.

If the cervix is still small, the insertion of a hydrostatic dilator, of which there are several, though Voorhees' appears to me to be the most satisfactory, is the best way of completing dilatation. Dilatation being complete, whether by natural or artificial means, and membranes ruptured or unruptured, I proceed to rotate by the internal method, passing the hand past the head and grasping the shoulders of the child, turning the body a quarter or half circle in the direction indicated and when withdrawing the hand rotating the head similarly. If the membranes are unruptured, they must, of course be ruptured, before passing the hand into the uterus. Having rotated, I am in the habit of applying forceps and delivering secundem arterem.

Some might leave the case to nature after rotating, and while such a procedure could not be attacked from a scientific standpoint, on humanitarian grounds I think it might be called in question.

The general principles involved in the plan of management I have attempted briefly to outline are, I am glad to say, not limited to my practice, but at the same time I am aware that there are some at least who are opposed to them and who can support their views with not a few instances of successful termination of occipito-posterior cases without aid.

They hold up the dangers of sepsis in intra-uterine manipulations and refer to such treatment as being "meddlesome" midwifery. To such I would reply that the serious consequences of even one unrecognized case justifies early interference in many for the sake of the one, and it must be remembered that even these normal terminations are accomplished with more severe and prolonged suffering than pertains in other positions.

He who fears to enter the uterus lest he infect it should stay outside. I would not in any way belittle the dangers of intra-uterine infection, but I would insist that he who proposes to introduce his hand or instruments into that cavity should have developed a technique of such a nature that he has no qualms when he is called to put it to the test.

It has been said that the promiscuous passing of hands into the uterus would probably be followed by disastrous results. If we are to limit ourselves to measures within the capabilities of the most casual or indifferent members of the profession, the progress of obstetrics will indeed be slow.

In other branches of medicine such is not the case. Surgeons

do not refuse to advise procedures because disaster might attend upon the efforts of some insufficiently equipped members of the profession, did they attempt to act upon the advice; rather do they emphasize the dangers and indicate the qualifications required by him who would follow their methods.

If the adoption of the plan outlined in occipito-posterior cases would prove dangerous in the hands of some practitioners, and I do not dispute that it would, must it therefore be abandoned? Caesarean sections, operations for ectopic gestation, version, etc., would, I am sure, be equally dangerous in the same hands; but they are not discredited on that ground.

We should seek to develop obstetricians and not midwives. The advantages to be gained are great; the operation is simple when undertaken at the right time; a case which without prompt assistance might have produced a dead baby and a life-long invalid, may, in a few minutes, without pain or injury to mother or child, have its whole complexion changed. If, on the other hand, one waits till the waters have drained away, the head is jammed into the pelvis with the occiput to the rear, the mother is exhausted, and the child perhaps dead, rotation has no place in the management of the case, at least not this form of *prophylactic* rotation. To attempt it then might end in a rupture of the uterus.

I would recapitulate in a few words, viz.:

1. Make the diagnosis of position and presentation by abdominal palpation, and be on the lookout for the suggestive signs.
2. Corroborate your diagnosis, or otherwise, early in the second stage, if unable to do so before.
3. As soon as the cervix is well dilated, either by natural or artificial means, rotate under a general anesthetic, and do this early, especially if waters escape with the "pains."
4. Be faultless in your aseptic technique.

75 Bloor St. East, Toronto.

ACADEMY OF MEDICINE, TORONTO, REMARKS AT THE
OPENING MEETING, OCTOBER 5th, 1909

BY ALEXANDER M'PHEDRAN, M.D., PRESIDENT.

AFTER duly acknowledging the honor done him in being chosen to the chief office of the Academy, the President said:

The success of the year on which we are entering will depend upon our united efforts. The work which the Academy accomplishes will equal the sum total of the work of all the Fellows, nothing more, nothing less. If each endeavored to contribute something of real value, however small, during the year, the whole would form a remarkably creditable showing when the year closed and we are able to "take stock." It is to the younger men whose enthusiasm is not as yet surfeited by success or sobered by arduous labor or by disappointments, that we have to look, for the chief part. But there are many of the seniors whose arteries are still soft and who are, therefore, young and who may be confidently counted on to contribute liberally to the year's proceedings. I would especially urge on the juniors that each make at least one contribution, however small, of genuine value. To do so is of the greatest importance in their own interests, as nothing does so much to increase knowledge as work thoroughly done. This reminds me of an observation, not rarely made, that the discussions at our meetings are not sufficiently keen. This arises from two causes, first, from lack of thorough preparation, and second, a fear of giving offence. The second is the natural result of the first and invariably follows it. If the work is well prepared, courteous criticism, however, searching, should be welcomed as the best means of obtaining fresh light, and the object of presenting any subject is to learn all that is known concerning it.

The objects had in view in the formation of this Academy are important and far-reaching. They are well set forth in Article 2 of the Constitution, as follows:

"2. The purposes of the Academy shall be the advancement of the art and science of medicine with its collateral branches; the promotion and maintenance of an efficient library and museum; professional improvement; the cultivation of harmony and good feeling among its fellows; and the promotion of the corporate influence of the profession in relation to the community."

This article covers everything pertaining to the advancement of the science and practice of medicine, and the promotion of the highest interests of the members individually and collectively and, by implication, of the community at large. It is well that these

aims should be kept constantly in view, as the higher our aims the higher will be our attainments.

Of all the organizations in this country, this Academy, situated as it is in the educational metropolis, should surely lead the way in support of the effort to make the Canadian Medical Association efficient and a credit to this young country, which is everywhere regarded as having a phenomenal future. All over Europe, Canada is synonymous with hope. In the effort of the Association to establish a journal as a means of intercommunication among the Canadian profession, and as a Canadian medium for the publication of the valuable scientific work of the country, this Society should render yeoman service.

The title of this Academy is broad enough to embrace anyone whom it may be desirable to admit. Its domicile is *Toronto*, but it is not the *Toronto Academy*. Would it not be wise, therefore, to extend the privilege to all, irrespective of residence, who can make contributions of genuine value to the science of medicine? Then, with a view to increasing the influence of the Academy in dealing with public questions, would it not be well to extend the privilege of membership to representative physicians from all important centres in the country? A small number have already done us the honor of joining our ranks.

There are many questions of public importance that could profitably engage the attention of the Academy, such as the prescribing of proprietary drugs of unknown composition. I am uncertain as to the extent to which this prevails in *Toronto*. The restrictions on quack remedies need attention. It is useless to fulminate against them, unless vigorous action is taken to lessen the evil. Our Medical Council would be the better of good advice, and I have no doubt that well-considered suggestions would be welcomed by them. The Canadian Patent Medicine Act needs the closest scrutiny of the profession.

Many other questions will occur to the members on which action should be productive of good.

REPAIR OF 3 CM. DEFECT OF THE MEDIAN NERVE, DUE TO AN OLD INJURY—ALMOST COMPLETE RESTORATION OF FUNCTION

INGERSOLL OLMSTED, M.B., HAMILTON, ONT.

THE patient, C. D., age 25, a carpenter, was referred to me in January, 1907, by my friend, Dr. J. A. Bauer, of this city. His history is as follows:

In June, 1906, while working at the ceiling of a verandah, the scaffold which supported him broke. In attempting to save himself in his fall he thrust his right hand through a window. A triangular piece of glass entered his forearm just above the wrist and made a wound about three inches in length, extending obliquely across the lower part of the flexor surface of the forearm. Immediately after the accident the patient found that he could not close his hand, as the thumb, index and middle fingers would not respond. A physician dressed the wound and placed the hand and forearm on a splint. Healing took place readily, but power in the thumb and fingers did not return. He then noticed, apparently for the first time, that sensation in the palmar surface of the thumb and affected fingers was absent. As he could not follow his trade, he came to the city and consulted Dr. Bauer, who kindly sent him to me.

On examination an irregular thick scar was seen, commencing at the outer side of the right wrist, and running obliquely across the flexor tendons upwards and inwards to the inner side of the forearm. The thumb was somewhat adducted and the index and middle fingers were moderately extended. When the patient attempted to close his hand there was a drawing upwards of the scar, but only the ring and little fingers responded. The thumb could not be properly adducted and only slightly flexed. The ball of the thumb was not nearly as prominent as normal, and the first and second lumbrical muscles were atrophied. There was loss of sensation on the palmar surface of the hand corresponding to the thumb, index, middle and outer half of the ring fingers. The dorsal surface of the index and middle fingers corresponding to the distal phalanges were also anesthetic. The skin on the palmar surface corresponding to the anesthesia was thin and searred, especially on the index finger, and the patient said he had burned his fingers on several occasions without knowing it at the time.

It was evident that the median nerve had been divided, together with palmaris longus, flexor carpi radialis, flexor longus pollicis,

and the superficial and deep flexors of the index and middle fingers. The accident occurred about seven and one-half months previously.

With the assistance of Dr. Bauer, an attempt was made to repair the injury on the 24th of January, 1907. Through a longitudinal incision placed a little to the radial side of the median line, the divided tendons were exposed and sorted. The distal ends were attached to the scar tissue. The median nerve was easily found lying on the profundus digitorum. The proximal end was bulbous and separated from the distal end by three-fourths of an inch. The distal end was degenerated and about half the size of the normal nerve. The tendons were first repaired by swinging down flaps from the proximal parts of the tendons and joining them to the distal ends of the corresponding tendons by means of fine ten-day chromatic catgut.

The median nerve was then dealt with. The distal end was first freshened with a very sharp knife. An attempt was then made to stretch the proximal portion in order to lessen the distance between the two ends. Little, if anything, was accomplished by this procedure. The bulbous end was then cut off and the end pared until healthy nerve tissue was found. There was then a space of three centimeters between the two ends of the nerve and the proximal end was about twice the size of the distal end. In order to bridge in this space the proximal end of the nerve was split up from before backwards into two halves for a distance of three centimeters and then the one half divided transversely at the upper end. This piece was drawn down and placed in a gap, which it filled nicely. It was retained there by very fine silk sutures passed principally through the epineural sheath.

Every care was taken to handle the nerve as gently as possible. A piece of Cargile membrane was wrapped around the repaired nerve, extending from a point above the upper divided fibers downwards to a point about half an inch below the distal junction. The wound was then washed with warm saline and the wound closed. A small catgut drain was placed through a stab wound of the skin to the inner side of the forearm, as there had been considerable traumatism by the various splicings. The arm was dressed with the fingers flexed and placed on a splint.

There was considerable discharge from the wound for the first few days, and it was nearly three weeks before complete healing occurred. Slight passive motion was begun at the end of ten days. The patient left the hospital with instructions to exercise the fingers and massage the hand and forearm. For the first two months little progress was made, but after that he began to gain power in flexing the thumb and fingers, but sensation to touch did not return until about the sixth month.

At the end of a year the patient could distinguish pain and

temperature to a slight extent, the fingers presented a more normal appearance, the skin having quite changed its appearance, and there was a marked improvement in the motion of the fingers. After eighteen months there was almost complete restoration of function. The muscles of the ball of the thumb had increased in volume with the exception of the *opponens pollicis*.

The patient could perform the various motions and manipulations very well indeed. The fingers could be separated and the hand closed. The sensations of touch and pain had returned and were about normal. The perception of heat and cold was not so acute. He seemed to recognize cold better than heat. During the cold winter weather the portion of his hand corresponding to the cutaneous supply of the median nerve would get colder than the corresponding parts of the other hand. He stated that it would also become purplish in color during the cold weather. This would indicate that vaso-motor nerves had not entirely recovered. The skin on the index finger has a tendency to crack, especially at one point where he had previously burnt it.

After section of a peripheral nerve, complete degeneration takes place in the distal segment. Even if the nerve be immediately joined no primary union is secured.

As to the method of regeneration three principal theories are held.

According to Waller and his followers, new axis cylinders grow down from the end of the upper nerve segment. Bethe holds that regeneration takes place from a proliferation of the nerve corpuscles in the sheath of Schwann and complete nerves are then formed. Margulijers (1) after a careful series of experiments came to the following conclusions:

1st. After division of the peripheral nerve there is a degeneration of the distal portion, in which the axone and medullary sheath disappear completely.

2nd. The nerve corpuscles of the sheath of Schwann increase in number and size, and form a new specific nerve fibre.

3rd. In this premature state the nerve, if kept separated from the proximal nerve end, atrophies.

4th. When joined to the proximal end it becomes differentiated into axis cylinder and medullary sheath.

5th. Autogenetic regeneration, *i.e.*, the complete formation of a nerve, does not occur if it remains separated from the proximal end.

6th. Every nerve regeneration is autogenetic at first, inasmuch as the fundamental structure of the nerve is built up from the nerve corpuscle of the sheath of Schwann.

Although we cannot be certain as to the method of regeneration, there are certain points which are proven. If a nerve be sutured

shortly after division and union takes place without infection the function of the nerve is shortly restored, and as a rule in a year or two practically complete return of the function is established. Usually the younger the individual is the earlier the repair, although this is not invariably the case. Bardenheuer (2) mentions three cases in which the hypoglossal nerve had been anastomosed with the paralyzed facial nerve where the function began to return in the fifth, fourteenth and twentieth days respectively.

In these cases the facial paralysis was of long standing, viz., six, fourteen and twenty-two years. In two recent cases, on the other hand, no improvement had appeared at the end of six months. Where one nerve is grafted into another the ends can be brought into immediate coaptation, and the fibres in the proximal end grow in the line of least resistance. After an amputation the central ends of the divided nerves send out new nerves, which curl up in themselves and then form the bulbous end. When a nerve has been injured and the two ends cannot be brought into apposition, various procedures have been tried with more or less success. The closer the two ends are brought together the quicker will the function be restored, provided always that no obstruction be placed between the ends. There appears to be a chemotactic substance thrown out which facilitates the growth of nerve fibrils. Some have placed catgut or silk strands between the ends, as has been successfully done in cases of destroyed tendons. Auffenberg (3) reports a case operated on by von Eiselsberg, where, after the incision of a neuroma of the median nerve, the two ends were tacked on a bridge of frayed catgut and silk strands four centimeters long. Nine days later the application of a strong Faradic current was felt in the fingers. A report of this case several years later showed fairly good motor power, but sensation was imperfect. The turning down of a flap from the proximal nerve has also given fairly good results. A very important point is the protection of the injured nerve from the ingrowth of connective tissue. For this purpose tubes of gelatine, magnesium, Cargile membrane, the inside lining of an egg shell have been successfully used.

Hashimoto and Toknoka, in reporting nerve injuries in the Russo-Japanese war, speak highly of tubulization of the nerves with arteries and veins from freshly killed calves (Formitti's method.) The arteries and veins are taken from the calf under aseptic precautions, placed over glass rods, hardened in five to ten per cent. formaline solution for forty-eight hours. They are then washed in running water for twenty-nine hours, boiled for twenty minutes, and preserved in ninety-five per cent. alcohol. During the operation the nerve is prepared, the vessel slit up, placed around the nerve and then the slit stitched up with fine catgut. A free channel is thus left for the new nerve fibrils to grow down into the

distal end. Where possible the nerve was surrounded by muscular tissue.

Resection of bone has also been done by several surgeons in order to approximate the nerve ends, and the results have been good. Various lengths of nerve have been bridged in without nerve suture. Horsley reported a case where one and one-fourth inches had been repaired without graft or suture.

In the case here to-day the defect was repaired by a graft from the proximal end. The graft necessarily degenerated, but it formed a good median for the proximal nerve fibrils to reach the distal end. It seemed preferable to swing down a graft from the upper end, as the ends could be more accurately joined, and hence would form less obstruction to the new nerve fibres. I have been unable to find any reference to a similar procedure in the literature, although heterogenous grafts have been used without success.

OPENING ADDRESS DELIVERED BEFORE THE SECTION ON
MEDICINE OF THE ACADEMY OF MEDICINE, TORONTO,
OCTOBER 12, 1909

BY HARLEY SMITH, M.B., CHAIRMAN.

THE study of the History of Medicine has been sorely neglected in our colleges. The History of Art is systematically studied, likewise the History of Philosophy. But few of our graduates know anything of the progress and development of medicine. This thought was suggested to me on reading in one of the European journals that a publication had been recently issued dealing with the School of Salerno. I was led to get some light on this ancient institution. What follows, is derived largely from one of the volumes in the Academy of Medicine.

The University of Salerno was established by Charlemagne in the ninth century. It attained its greatest importance in the twelfth century. Jurisprudence, philosophy, theology and medicine were taught, as in the Arabian academies. There were women professors on the staff. Of Arabian or Nestorian origin was the title of magister or doctor, introduced at Salerno in the twelfth century and solemnly bestowed at the public graduation ceremonies. Before receiving this degree the candidate was compelled to fulfil the following conditions: seven years' study; twenty-one years of age; of legitimate birth; a satisfactory examination in the Hippocratic, Galenic and Arabian writings; a promise to teach correctly, administer no poisons, and treat the poor gratuitously. He then received a ring, a wreath of laurel, a kiss and the benediction. Thereafter he could teach or practise wherever he would.

The tendency of the University of Salerno was eminently practical. Hence, chief stress was laid on symptomatology, dietetics, materia medica and treatment, though physiology and human anatomy were not overlooked. Frederick II. introduced into his medical code a special provision for the teaching of anatomy, and by his orders a dissection was made every five years.

Some prudent instructions were given to practitioners by the teachers. One of these was that the physician should say to the patient that he will recover; to the friends, that he is very ill. If he die, the doctor will have the credit of foreseeing the result. If he recover, his reputation will likewise be enhanced. Another advice was that, if the physician be invited to a meal in the patient's house, he must be modest and temperate, and look after the patient frequently during the meal, lest he seem to forget him amid the pleasures of the table.

The University attained an international importance; for here studied, taught and exchanged ideas, Arabians and Jews, as well as Christians. It was, like Alexandria, one of the historic bridges, over which ancient medical culture took its way during the middle ages from East to West. It was also the medium by which Arabian pharmacy and therapeutics were introduced into the medicine of the West.

The study of the History of Medicine not only enables us to trace the development of medical culture, and thus to appreciate more fully its present progress and comparative perfection; it also makes us realize the splendid work accomplished by the earlier physicians, whose achievements were little short of miraculous, when one considers the tremendous difficulties they had to overcome. The subject for discussion in our section to-night ("Diseases of the Myocardium") naturally leads us to think of William Harvey and the self-sacrificing labors which he carried on for twenty-six long years, in order to dispel the darkness which enveloped so thickly the action of the heart and circulation. And then, after those weary years of patient endeavor for the enlightenment of humanity, emerged his immortal "*Exercitatio Anatomica de motu cordis et Sanguinis*,"—a work placed under the ban by the strict censorship of the English Government. The author had to publish it at Frankfort-on-the-Main.

All wisdom is not contained in the clever brains of the modern investigator, brilliant though his results may be. We can learn much from those truly great physicians of centuries ago, who, in spite of incomparable difficulties and opposition, laid firmly and securely the foundations of medical science and art. Let us study them more diligently. Let us appropriate to our own use some of their practical wisdom. Can we do better than take as our own that famous precept of Hippocrates, "Life is short, opportunity fleeting, judgment difficult, treatment easy, thought hard, but treatment after thought is proper and profitable."

THE APPLICATION OF COAL OIL TO THE STREETS OF TORONTO

BY CHARLES SHEARD, M.D., M.H.O., TORONTO.

I DESIRE to state that during the past summer I have been conducting experiments with a view to using oil upon the streets for laying the dust. This method was at first forced upon me by having to combat the dust nuisance upon roadways lying upon the outskirts of the City of Toronto, and being so far removed from water mains and hydrants that the haulage became a matter of great difficulty and expense. Upon some of such roadways I used crude petroleum, and with such satisfactory results that I extended the application of the same substance to the macadam roads throughout the city generally.

To allay dust by the application of oil is no new introduction. This was done many centuries ago by the Egyptians. It has also been resorted to by various railway companies for over twenty-five years. It has been used in California, as you doubtless are aware, for large streets and public highways used for general travel; it has also been extensively used in many cities in connection with park boulevards and approaches to parks, and its use in Toronto only varies from this in that it has been used much more generally and with a view to dispensing with the watering cart.

For this work various forms of oil have been used; most of these have been of the petroleum character, and as various kinds of petroleum derived from various sources differ somewhat in their constituents, the results will be correspondingly modified. Thus, for example, they obtain Texas crude oil, which is comparatively free from smell, and probably has not so many tar products in the crude residue as some other oils; whilst in Olean and various points in Pennsylvania a petroleum oil is procurable which is almost absolutely free from smell, whilst in other localities petroleum is obtained having more or less odor. The readiness of procuring a suitable supply, and securing an oil free from odor, will have considerable influence in connection with its general employment. We are at present using crude petroleum oil, obtained from the British-American Oil Company and from the Canadian Oil Company; the former claim that their oil has an asphaltic base and is probably the more satisfactory. The work is being done by the city itself, and not under contract. The oil is applied now on ordinary macadam roads wherever they exist, whether in a residential section or in some crowded district of the city, and wherever oil may be suitably applied.

The method of application is to apply the oil in several relays, with a few days between. The number of applications required

will vary somewhat according to the road to be treated. If the road is a reasonably good one, free from ruts, and not subject to very heavy traffic, three applications of oil should last from one to three months, and three applications are regarded as one oiling. If, however, the road is a bad one, and subject to being traversed by heavy drays and waggons, it will probably not last longer than one month. The better the road-bed the lighter the dose required. If the road has a considerable grade, and is much exposed to the sun's rays, the oil will dry out sooner than it would if the road happened to be more or less shaded by the trees. In applying the oil it should be lightly sprinkled from a watering cart, driven at a fairly rapid gait over the road, endeavoring in the application to so deposit the oil that the spots of oil will be more or less separate, care being taken not to leave puddles of oil in the depressions or channels. Should such occur, it is advisable to have them swept away with a broom, so that they will not be splashed by traffic or stain the clothing of pedestrians. The road is then watched for three or four days, when the second dose is given and again allowed to rest for awhile, when, after another week, the final application is made. The road is better for being prepared, channels being cleaned out, depressions levelled, and ruts more or less filled up. This, however, is not always practical and the road may be treated without such preparation. Rain does not affect disadvantageously a road that has been treated with oil; such a road will dry more rapidly after a rainstorm. The surface water will speedily run to the channels of the road, and the road will be found to be improved rather than injured by the rain. The sun coming out brings the oil again to the surface and the dust adheres.

We have found upon ordinary roads 1,500 gallons of oil per mile will be sufficient for the three applications, as above described. Should the road be in bad repair, without a satisfactory road-bed, it may require 2,000 gallons. This at 4 cents a gallon, with from \$10 to \$15 for its application, would cost from \$70 to \$75 per mile for oiling, which in our city we have found about 20 per cent. less than watering. The oil has many advantages over watering. A watered road will dry out speedily, and in three hours be as dusty as ever. Moreover, the damage from tracking mud and the general appearance of the road is much inferior after watering than after oiling. Regarding the odor, it has generally passed off in from three to four hours. It is very little complained of, and, to my mind, is not a serious objection. I may say in the City of Toronto during the past summer we have oiled practically all the macadam roads capable of being oiled within the city, and our citizens generally express themselves as being highly pleased with the innovation, and we have found, after including the cost of the oil and its application to the road, it has been less expensive and more satisfactory than the old-time system of watering.

Proceedings of Societies.

THE AMERICAN HOSPITAL ASSOCIATION

THE 11th Annual Meeting of this Association was held in Washington, D.C., September 21st to 24th, Dr. John M. Peters, Superintendent of Rhode Island Hospital, presiding. The attendance was about the same as at the meeting in Toronto last year. The Association has about 600 members. It meets in St. Louis next September.

The greeting to the capital was presented by Rear Admiral Rixey, Surgeon General, United States Army. Lieut.-Col. W. H. Arthur, of the United States Army Corps was also present and described the United States military hospitals; while Rear Admiral H. Ross, of the United States navy gave a fine description (accompanied by lantern slides) of the new naval hospital at North Chicago, Ill., as well as of the barracks there for the training of the sailors in the navy.

A paper on Mexican hospitals was not presented owing to the demise of the gentleman who was to read it—Bertram E. Taylor, Esq., a Boston hospital architect of high repute, who probably has planned more hospitals than any other American architect.

Mr. Del Sutton, Editor of the *International Hospital Record* of Detroit, was not able to be present, but sent his paper—"The Hospital and the Public," which was read. Mr. Sutton holds that the public should be informed by hospital authorities of the inside working of the hospitals; that if such information is fully and freely given there need be no trouble about hospital deficits.

Dr. Sarasen (who was absent) was down for a paper on "The Terraced Pavilion, a New System for the Construction of Hospitals and Sanitoria." Though it was not presented, Dr. H. B. Howard, of Boston, who made the report on hospital construction, emphasized the importance of this new feature in construction. In that the terrace on the roof of the lower storey forms an airing balcony for the patients in the second storey. This is important as now-a-days patients of all sorts are being ordered out of doors. This being the case it is desirable to have them as convenient to the ward as possible, for obvious reasons. To try out this open air business Dr. Howard took to it himself, and after a year of it finds it very enjoyable and good for his own

health. Dr. Howard, it may be remembered, was one of the experts employed by the authorities of the General Hospital to go over the plans of the new building.

R. W. Coriem, M.A., M.D., LL.D., a prominent western educationist and hospital superintendent, sent a paper on "Suggestions in Connection with Hospital Construction," which was read. It was very pithy, but did not contain much new matter. The one new point he did dwell on was the advisability of using inclines instead of elevators and stairways in hospitals. These latter he would not have in at all. The advantages of the inclines are that convalescing patients, patients with crutches, patients on chairs and stretchers can be taken up and down inclines much more easily and safely than they can up and down elevators and stairways. Then they are much safer and more convenient in case of fire.

Dr. Charles P. Emerson, late of Johns Hopkins, and the author of the splendid book on clinical pathology, now superintendent of Clifton Springs Sanitarium, N.Y., gave a very fine address on the construction of hospitals. Dr. Emerson's view point is that each hospital should represent an idea, that it should be specifically built for a certain sort of work, that it should be architecturally as well as scientifically up-to-date. Many hospitals were architecturally many years behind the times. Dr. Emerson contrasted the English children's hospitals with the German and French to the former's disadvantage. Though infinitely cleaner the occurrence of epidemics was several times as great. Why? The use of stone floors as opposed to wood and the better segregation of the children in the ward, as the result of a closer and more careful study of the family history—the proper placement of the immunes and the non-immunes to render contagion less possible. More attention should be paid to closets and pantries—here are where the glass and tiles should be placed—more important here than lavishly in the operating rooms.

Dr. S. S. Goldwater, ex-president of the Association, and superintendent of the big Jewish hospital in New York, presented an exhaustive paper on "The Appropriation of Public Money for the Partial Support of Voluntary Hospitals in the United States and Canada." Dr. Goldwater's statistics will, when published, rather startle the average layman, when he notes the tremendous amounts of money appropriated for hospitals. Dr. Goldwater quoted from Dr. Bruce Smith's report and commended the method adopted in Ontario. He seems to favor the plan of having the ordinary voluntary hospital look after the sick poor, such hospital to receive municipal government assistance when needed, rather than the plan of a municipality having its own hospital for the care of its poor. Dr. Bruce Smith

ardently supported Dr. Goldwater's contention, while Mr. Homer Folks, Secretary of the State Charities Aid Association strongly supported the other side. The members of the Association are divided on the question, some holding that the poor sick are entitled to municipal or governmental care the same as the insane and paupers, or as children who are educated at the public expense.

"Hospitals from the Patients' Point of View" was, by proxy, ably presented by Dr. Gilman Thompson, of New York City. In this Dr. Thompson pleaded that patients should be put into smaller wards so as to allow for segregation. He harangued against the placing of a delirious patient at the side of a nervous case; or a case of pneumonia next a typhoid, etc., etc. Dr. Thompson holds that the routine and red tape required by the hospital is often detrimental to the patient—that too often the best interest of the patient is lost sight of by the nurse. In a somewhat related paper Dr. Brush, Superintendent of the New York Postgraduate Medical School, took a stand in favor of "the patient with moderate means." In this he advocated the semi-private wards and the moderation of all fees, hospitals, radiographers, anesthetists to suit the purse of the patient.

Dr. Thomas Howell, the recently appointed superintendent of the New York Hospital, described a cost system for hospitals which was inaugurated at Worcester City Hospital. Large sheets were displayed containing per capita per day cost of the different items, such as food, heat, light, training school, internes, etc., etc. This system was very useful to the board who were men who conducted large businesses and kept track of cost in their places in this same way. Dr. Brown, of Toronto, discussed this paper, citing figures to show that this cost accounting is a great comfort to a superintendent, in enabling him to know what articles are being requisitioned for in excess of normal and of checking this, if extravagant.

Dr. R. M. Phelps, assistant superintendent of the State Hospital, Rochester, Minnesota, contributed a paper on "What do Justice and Present Conditions Demand in the Way of Law and of Education of Nurses." The writer of the paper advocated strongly the two year course of training, and opposed the plan of teaching nurses so much that was not really needed in the practising of the art. The Association itself, during the past year, had taken up the question of nurse training, bringing in a report which was unanimously adopted.

Being of so much interest to the medical profession we reproduce it below somewhat fully.

J. N. E. B.

Selected Articles.

STYPTICIN

STYPTICIN is a yellow crystalline powder, readily soluble in water, and owes its great popularity to its well known remarkable *styptic* properties. To disguise its bitter taste it is also put up in sugar-coated tablets, each containing 0.05 gram ($\frac{3}{4}$ grain) of Stypticin. Besides its *hemostatic* properties, Stypticin possesses a *sedative* influence, and to a small extent an *anodyne* action.

The *general styptic action* of Stypticin depends upon central influences, a contraction of the vessels themselves does not take place. Some experimenters even assert that Stypticin causes a dilatation of the pulmonary vessels and a reduction of the blood pressure, and to explain the *local styptic action*, it is generally accepted that Stypticin exerts a distinctly specific action on the vaso-constrictors.

It is tolerated in comparatively high doses without any deleterious results, even its protracted use, extending over several weeks, never gave rise to any unpleasant by-effects, a conclusion which applies to the *intramuscular* injection of the remedy, the employment of sterile solutions being of course understood. In hemorrhage of the womb and its appendages, it displays at least the same marked astringent properties as exhibited by ergotin and hydrastis, but surpasses these by the uniformity and regularity of its action.

Stypticin has proved most efficient in numerous cases of *endometritis* and *metritis chronica*, in persistent bleeding after curettage, and in hemorrhage arising from *uterine gonorrhea*.

Its use is further recommended in cases of hemorrhage due to *imperfect involution of the womb after birth or miscarriage*, or caused by certain forms of *misplacement of the womb*. In all such cases the remedy renders most excellent services.

The same applies to the use of Stypticin in *embryonic miscarriages*, which often take the form of violent menstruation, and to hemorrhage due to *threatened abortion*; in both cases practice has shown that its administration neither calls forth labor pains nor causes abortion.

The preparation can be prescribed generally with satisfactory results in cases of hemorrhage due to *myoma*; it is however advisable to administer large doses a day or two before the hemorrhage

sets in. Favorable results were also obtained in cases of hemorrhage caused by *misplacement of the womb*, accompanied by inflammatory processes in its vicinity. Stypticin exercises a *locally sedative* action on the genital tract in cases where the womb and its mucous membranes are in a state of irritation owing to disease in the surrounding parts or to a pathological condition of the muscular tissues.

No less favorable is the action of Stypticin in *menorrhagia* caused through pelvic cellulitis or inflammation of the appendages. In all cases of this kind scarcely a single failure has been known to follow the use of Stypticin; the pains disappear and do not recur. *Profuse and protracted menstruations* are always diminished. An equally reliable effect may be expected in *consecutive metrorrhagias*. The administration of Stypticin is further attended with success in the treatment of *uterine bleeding in consequence of sluggish discharges*, following upon operations performed in the appendages, as well as in uterine hemorrhage complicated by inflammatory processes in the appendages.

In the opinion of many prominent authors, as Stypticin far surpasses all the known internal hemostatics and does not cause any contraction of the womb, it is admirably adapted for use in cases of *hemorrhages of oophorogenic origin*, as long as they do not result from hyperplastic changes of the mucosa uteri.

Excellent effects are to be observed in instances of traumatic perimetritis and parametritis, *menorrhagias coupled with chronic oophoritis*, in *fungous and parenchymatous metritis* as well as in *catarrhal salpingitis and hematosalpinx* so often complicated by *retroflexio uteri*.

Very favorable results are obtained in *true climacteric hemorrhage*, provided that no other, especially malign changes, are the cause. By using comparatively large doses the effect is generally permanent. Stypticin proves to be most effectual in the treatment of *profuse hemorrhage during menstruation*, especially in the case of abundant menorrhagia and metrorrhagia in young girls during the initial periods, further in irregular periods and in hemorrhage in child-bed and in the climacterium.

THE LOCAL APPLICATION OF GUAIACOL.

SOME years ago the local application of guaiacol, which is the chief ingredient of creosote, enjoyed a considerable reputation as an antipyretic and antineuralgic, and as a means of promoting the absorption of inflammatory exudates. Its period of popularity, however, was of short duration, since it was found that its use

was attended not only by considerable irritation, but also by toxic effects, due to its rapid absorption. For this reason the remedy has been to a large extent discarded, even though it was recognized to possess valuable properties. Lately, however, a new derivative of guaiacol has been discovered which embodies, to a great extent, its therapeutic effects, while at the same time free from its objectionable features.

This preparation, known as monotal, is chemically the methyl glycolic acid ester of guaiacol, and pharmacological experiments have shown that it is easily absorbed by the skin, and capable of producing the physiological effects of guaiacol, but with these essential differences: Monotal does not irritate the skin, and its absorption is so gradual that there is no risk of toxic sequelae.

As shown by the clinical evidence, monotal promises to be a very valuable substitute for the irritating and poisonous guaiacol. Its application to the chest in phthisical patients has been found a valuable local auxiliary to the internal treatment. Equally beneficial results have been derived from its use in other forms of tuberculosis, such as tuberculous affections of the joints.

Its analgesic properties have been utilized to advantage in the treatment of various painful affections, such as pleurodynia, sciatica, and the obscure pains from which neurasthenic persons so often suffer. Excellent results have also been reported in chronic affections of the joints of gouty character, and in rheumatoid arthritis. It has also been recommended in cases of phlebitis.

Owing to its lack of irritation, monotal may be used in the pure state, either rubbed in or painted on, according to the sensitiveness of the parts, the amount at each application varying from one-half to one dram in adults, and correspondingly less in children.

LEUCOFERMANTIN

(Antiferment Serum according to Dr. E. Müller of Breslau).

RECENT research work on the antitryptic body present in human blood and in the hydrothorax and ascites fluid has been considerably advanced through the discovery by E. Müller and G. Joehmann (in the clinic of Prof. v. Strümpell) of a simple method for the recognition of the albumin-digesting leucocytic ferment occurring in the polymorphonuclear cells. At the same time E. Müller and others were able to prove that this antiferment to the tryptic ferment of pus or leucocytes might advantageously be applied in therapeutics in all inflammatory processes accompanied by suppuration and

fermentation in which a too extensive and therefore dangerous destruction of tissue is to be prevented.

The first experiments were conducted in Küttner's Surgical Clinic (University of Breslau) with a sterile fluid possessing a high antiferment index, withdrawn by paracentesis from patients. However, reliable material of this kind is at the disposal of only a few. Experiments were therefore made in my Serum Department to increase the naturally low antiferment content of animal sera by a preparatory treatment of the animals with tryptic pus ferment obtained from man. These experiments proved successful, and it was further ascertained that the action displayed by the tryptic ferment of pus cells or of leucocytes fully corresponds to that of pancreatic trypsin. This fact enables the employment of the leucoferment of human pus in the preparatory treatment of the animals to be replaced by the use of pancreatic ferment, with the result that a satisfactory preparation of constant therapeutic action is obtained.

Merck's Leucofermantin is a normal animal serum, the antiferment content of which has been so far increased as to at least correspond to the antitryptic index of normal human blood serum.

The antitryptic power of Leucofermantin is determined in the following manner: 0.001 gramme of trypsin (Merck) is added to varying amounts of the serum to be tested, and sufficient normal saline solution to make 1 c. c.; one drop of each solution is sown on a Müller-Jochmann plate. Numerous experiments have established that if the solution containing 0.3 c. c. of serum does not digest the albumin of the plate surface sufficiently to cause a visible depression, its antitryptic efficacy—*i.e.*, of the serum under examination, corresponds to that of normal human serum. This is expressed by the index 0.3.

Before being supplied Leucofermantin is not only tested as regards efficacy, but is controlled with scrupulous care to ensure its being sterile, and its harmlessness is established by animal experiments.

According to Müller and Peiser Leucofermantin treatment is specially indicated in all "hot" suppurative processes leading to abscess formation. In circumscribed suppuration with well-defined borders—*e.g.*, abscess of the lymphatic glands, suppurative mastitis, etc., treatment with Leucofermantin leads to a very rapid and complete inhibition of pus secretion. This is accompanied by deferescence, the necrotic process is arrested and healing granulation sets in. Its application materially shortens and simplifies the treatment of localized pyemic conditions, as it necessitates less change of dressings and consequently spares the patient a considerable amount of pain. A slight cut or even a puncture of the suppura-

tive focus is sufficient, thus ensuring a better cosmetic and functional result than following an incision.

In cases of pyemic infiltration and diffuse inflammation where autolysis of the tissues has not yet taken place, as in recent furuncles and carbuncles, the therapeutic effect of Leucofermantin is far less marked. Favorable results, however, were obtained from its application in suppuration of the tendon sheaths, bones and joints, also in abscess of the eyelid and in acute dacryo-cellulitis, especially when the tissue surrounding the lachrymal sac has undergone degeneration. In gynecological practice Leucofermantin is particularly well suited for the treatment of abscesses of the abdominal wall and pelvis.

The preparation is applied as follows: In open suppurative foci Leucofermantin is simply poured into the cavity, otherwise a small incision is made and Leucofermantin injected, if practicable after draining the abscess by means of an aspirator. Where possible the part is dressed with gauze soaked in Leucofermantin and covered by a moist dressing. It is important that the Leucofermantin be brought into contact with the whole of the suppurating surface. There is a complete absence of harmful secondary effects. Leucofermantin is supplied in bottles of 20 and 50 c. c. It is best stored in an ice safe.

ABSTRACTS

The Sphenoidal Sinus.—J. A. Gibson, Buffalo (*Journal A. M. A.*, December 19), describes the anatomy and variations of the sphenoidal sinus, a cavity of which he thinks the importance has been underestimated and its study neglected. He has investigated eighty-five sphenoidal sinuses in the human skull, with special reference to the position, size and extent of the sinus, the average thickness of its walls, its relationship in size, if any, between it and the frontal and maxillary sinuses, the relationship, if any, between a large posterior naris and a small sphenoidal sinus, or the reverse, the establishment of certain averages between anatomic points, obtainable in the living subject, which might be of assistance to the surgeon, and to the recording of anomalies and their possible influence on surrounding parts. He finds no definite relationship in size between the different bony sinuses of the skull, nor anything definitely characteristic between the sizes of the posterior nares and the sphenoidal sinus. The size of the posterior nares is a very poor guide in estimating the size of the sinus. Any operation approaching the sinus by way of the postnasal space and from below would be unsatisfactory in many cases from the fact that the floor is sometimes quite thick, and that the sinus

is often situated far forward. Any rule for the passage of a catheter into the sphenoidal sinus must necessarily be imperfect if for no other reason than that the nasal turbinates vary greatly. Added to this is the liability of variation of the sinus opening. Adding the minimum distance from the anterior superior nasal spine to shortest antero-posterior sinus, Gibson gets as a result 57 mm. (2 1-2 inches). This will give the least distance from the anterior nasal spine to the posterior wall of the sinus, and furnish a conservative distance to which an instrument may be inserted without fear of entering the cranial cavity.

The Heart in Diphtheria.—J. Howland, New York (*Journal A. M. A.*, December 19), says that the two chief cardiac lesions in diphtheria are the parenchymatous and the interstitial. Fatty degeneration is extremely frequent, varying widely in degree and always accompanying the severer lesions. It may occur at any time in the disease. A much severer degeneration, both focal and general, which affects all parts of the muscle fibre, the contractile elements, the protoplasm and the nucleus, and which leads to the formation of granular detritus and large irregular hyaline masses also occurs. This is only found late in the course of the disease, rarely earlier than the seventh day. The interstitial changes are of two types. In one there are focal collections of lymphoid and plasma cells. In the other there is the invasion of the degenerated and necrotic muscle cells with endothelial cells and polymorphonuclear leucocytes. These are all essentially late changes. Only fatty degeneration is seen before the sixth or seventh day. The early circulatory disturbance is extraordinarily severe, but, thanks to antitoxin, is rarely seen at present. Romberg and Pässler's experiments show that this is due to failure of the vasomotor centre, though undoubtedly the heart itself is affected. The late circulatory disturbances may appear at any time from the second to the fifth week. The first symptoms are usually to be found in the pulse, which drops with the temperature, often to below normal, remaining there or rising and falling again. In a certain percentage of cases it may be persistently high, but either of these means almost certainly myocarditis. At other times the first symptom is irregularity in the force of rhythm, and the former is constantly present and may last for months. The worst prognosis is given in cases with low and constantly falling rate. Heart examination reveals the same abnormalities together with murmurs and evidences of dilatation, and here the personal equation of the examining physician has played a considerable part in their interpretation. We cannot draw accurate deductions at present as to the severity of lesions from the murmur, and it is Howland's personal opinion that dilatation has been diagnosed

too frequently, though it would be wrong to say that it is unusual. A sign of mild cardiac disease of greater value on account of its constancy is the alteration in character of the first sound of the heart, consisting in the more or less complete disappearance of the muscular element of the first sound, making it weak and short and what is usually called "valvular" in quality. Studies in regard to blood pressure are incomplete and unsatisfactory. It is generally somewhat subnormal, and when below 75 mm. always means a serious condition, and below 70 mm. great danger. A progressive fall should excite more concern. General symptoms, such as pallor, apathy or irritability and vomiting, are often much in evidence. Loss of weight is common even in convalescence. The cause of death has not been determined by experiment, but the clinical evidence is conclusive that it is due to myocarditis. Rest and general management are of more importance in the treatment than drugs, from which we can expect little permanent effect, as the myocardial lesions require days and weeks and not hours for their cure. The so-called pneumogastric paralysis is discussed at the close of the paper, and Howland thinks that the postmortem findings almost completely dispose of the nerve as a factor in producing the symptoms referred to, as it seems to be generally degenerated and these symptoms are not common. The symptoms, he thinks, could be better explained by metabolic disturbance from the action of the toxin on the viscera, referring the slow heart and other circulatory symptoms to the concomitant myocarditis.

Alveolitis.—M. H. Fletcher, Cincinnati (*Journal A. M. A.*, December 19), considers alveolitis, commonly called pyorrhea alveolaris, one of the most prevalent and destructive disorders attacking the teeth. Its initial exciting cause is, in his opinion, the formation of tartar about the necks of the teeth. This sets up irritation and invites infection, which destroys the membranes covering the alveoli and dental roots. The infection is most likely to be from the pus-producing germs attacking bone, syphilis and tuberculosis. Fletcher thinks the last-named infection the most frequent, though its microscopic determination is not easy. Syphilitic infection seems to be much less common in these cases than either the pyogenic or tuberculous, though the mouth is a favorite location of other syphilitic lesions. The necrotic process may extend, invading the maxilla and antrum in extreme cases, and sometimes giving rise to severe neuralgic symptoms in regions apparently free from the disease. This Fletcher is inclined to attribute to a periostitis starting from the alveolitis. He goes fully into the treatment, the removal of calcareous deposits and necrosed bone, the description of instruments, etc., and claims that

by proper handling even the advanced cases can often be conservatively treated without the radical operation of extensive removal of maxillary structures as is now so often done by the general surgeon. The necessity of thorough curetting or burring about all teeth where the disease is found, and of more thorough removal if the disease is deep seated, is particularly insisted on. Of course, the general condition and resistance are factors to be considered, and if systemic treatment is required it should be directed toward the restoration of normal health by such means as the elimination from the diet of foods which do not become fully digested or assimilated and the copious drinking of pure water. Any complicating disorders, aside from the local disease, should be properly attended to.

Infantile Digestion.—A. Friedlander, Cincinnati (*Journal A. M. A.*, December 19), has employed Einhorn's bead test in the study of the digestion in very young children, even newly-born infants. While he gives his results in detailed, tabulated form, the principal object of his paper is to describe the method which he found practicable and to point out its value. Einhorn's method, briefly, is as follows: Small pieces of various foodstuffs are fastened to small glass beads by silk thread. The beads are strung together by an additional thread, and the string of beads, with attached foodstuffs, is put into small gelatine capsules. These capsules are swallowed by the patient and the string of beads is later recovered from the stool, the exact time of its passage, between the swallowing and the finding, being noted. If the beads remain in the tract over fifty hours, the results are not considered reliable, because of the possibility of degeneration from the action of the intestinal bacteria. In older children, able to swallow capsules, Friedlander adopted Einhorn's method, except that all of the foodstuffs were enclosed separately in bags of wide-meshed gauze so as to eliminate the possibility of error from their tearing loose from the bead. In young children and infants he used single beads, each with an attached gauze bag, and inserted this, with the contained food, into the end of a previously sterilized piece of rubber catheter. This was then pushed down into the child's stomach and the bead and bag pushed out by an olive-pointed Otis bougie into the stomach. The procedure was found surprisingly easy and harmless. While he can draw no sweeping conclusions from his limited number of experiments, it seems to him that the method is a very promising one for the study of the digestive processes in infancy and early childhood. The results of the experiments with sweetbread, with special reference to nuclear digestion, and the proof thereby afforded of pancreatic activity from birth, are certainly suggestive. A profitable field

of inquiry may thus be opened. The test may also be found clinically useful in infancy by indicating the special form of food that is imperfectly digested, and pointing out a rational alimentary therapy. A number of tables accompany the paper.

Amebic Dysentery.—The necessity of surgical treatment for all cases of chronic amebic dysentery is insisted on by J. M. Holt, Brooklyn, N.Y. (*Journal A. M. A.*, December 19), *i.e.*, in all cases in which, after a fair trial of other treatment, the *Ameba coli* could still be found in the stools. All observers, he says, are agreed as to the tendency of the disease to resist treatment and to run on indefinitely, and we should not permit this when a simple surgical operation will clear up matters at once. There are altogether too many patients in the country going about uncured for years, and he asks: Has appendicostomy ever been proposed to them? While there may be a debatable ground for the adherents of the medical treatment of appendicitis, there is none in this case. A case, he holds, may be considered no longer acute and amenable to medical treatment after it has lasted nine months or a year. In his opinion, moreover, there is no known drug which, given by the mouth, can be tolerated in the upper digestive tract in sufficient strength to destroy the ameba in the colon. In conclusion, he suggests the possibility that the *Ameba coli* may not be equally pathogenic to all, as some do not contract the disease after exposure. The so-called *Entameba coli* may be the form of parasite found in the stools of individuals not thus susceptible. The so-called *Entameba dysenteriae* may be the same parasite developing greater activity, coincident with morphologic changes in an individual having a susceptibility to the organism. He asks whether it has ever been found in a case presenting no clinical symptoms.

The Canadian Journal of Medicine and Surgery

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Editorials.

TYPHOID FEVER IN TORONTO TRACED TO INFECTED WELL WATER

DURING the month of September, 1909, seventy cases of typhoid fever were reported to the city medical health office, as against twenty-two cases in September, 1908. This increase is attributed to the use of infected well water in the annexes and newer sections of the city. Probably the dry weather of the past summer and a low level of the ground water may have been contributory factors

to the development of typhoid fever among the users of well water in or near Toronto. Nineteen of the cases were infected with typhoid fever, before coming to Toronto. There is, therefore, no reason to feel anxiety about the purity of the city water supply. It may also be said that, with the extension of this public water supply to the outlying portions of the city, wells will be closed and typhoid fever will, in these instances, become a thing of the past. Physicians, who practised in Toronto thirty and forty years ago, when well water was in very common use, will remember that a home brand of typhoid fever of great severity was then prevalent in sections of the city where it is not reported at the present time. And yet, even in those ancient days, it was possible to raise a family in a Toronto home, so that not even one of its younger members would catch typhoid fever. Apart from natural resistance to the disease, the saving sanitary precautions on the premises were: A well with a good head of water, protected by a sheathing of blue clay to the depth of four feet from the surface, and the removal of night soil from the privy vault on the premises, at frequent intervals.

Owners of dwellings not supplied from a public water supply should be obliged by health enactment to look to the purity of the well water on their premises. If a case of typhoid fever occurs in a dwelling supplied with well water, the owner should be obliged, in order to escape liability, to show that the well water on his premises is pure; if it is proven to be infected, the owner of the premises should be held liable for the expenses caused by the outbreak of typhoid fever. Legislation of this type would reduce the scandalous prevalence of typhoid fever in Ontario to rather slim dimensions.

J. J. C.

RAMPANT ANTI-ALCOHOLISM

WE learn from the pages of the *British Medical Journal* (September 11, 1909) that the Hungarian Ministry of Agriculture provided each member of the International Congress of Medicine (Budapest, August 29th to September 4th) with a case containing two small bottles of Tokay wine, together with a booklet describing the manner in which this wine is produced, its origin, and the value as a therapeutic remedy, which it is supposed to possess. The

present was intended as a mark of hospitality, and even though the distribution of it and the pamphlet were intrusted to the National Association of Hungarian Wine Growers, the fact that the matter was supported by the Hungarian Ministry diminished the force of any suggestion of trade advertisement. Mark the sequel. A letter written in the name of the Anti-Alcohol Association, and signed by the President (Sir Victor Horsley) and the Secretary, (Dr. Holitscher, of Pirtenhammer, near Karlsbad) was sent to the local press, calling on the members of the International Medical Congress to refuse to accept the present, and pointing out that the article dealing with the therapeutic value of the wine was written by the brother of the Director of the Wine Growers' Association. The letter stated in plain, blunt language, that, since alcohol can no longer claim a place in therapeutics, and since this present bore the impress of trade advertisement, it must be beneath the dignity of the medical profession to support this iniquitous traffic by accepting the bottles of wine. The *Pester Lloyd* published the letter in full, but expressed the opinion that the suggestion of the "English Abstainers" was unfortunate and discourteous. Other papers referred to the letter, but refrained from publishing it. The fact that the President of the Anti-Alcohol Association is an Englishman seems to have led many to visit their disapproval on the English members of the Congress, though this feeling was not shared by the majority of the Hungarian and other medical men at Budapest, nearly all of whom, it is said, accepted the offering. And so Sir Victor Horsley and Dr. Holitscher, received a rebuke from the members of the medical profession at Budapest, because, in an inopportune time, and in a blatant fashion, they undertook to fill the ears of their confreres with the strident notes of an anti-alcohol pronunciamento and interfere with their enjoyment of a glass of good Tokay. Besides, the bad taste of exploding such a bomb in Budapest. For centuries the Hungarians have prided themselves on the quality of Tokay wine, which in the opinions of connoisseurs is one of the most perfect wines in the world. All wines contain a percentage of alcohol, some more, some less. Hence the antagonism of the President and Secretary of the Anti-Alcohol Association to Tokay. Surely a couple of bottles of sound Tokay per man could not upset the gravity of the International Congress of Medicine. J. J. C.

**SHALL OSTEOPATHS PRACTICE MEDICINE IN ONTARIO
WITHOUT A LICENSE FROM THE COLLEGE OF
PHYSICIANS AND SURGEONS OF ONTARIO?**

A TEST case will be sent to the Court of Appeal to decide whether the practice of osteopathy is a breach of the Medical Act. Col. Denison decided to take this action after hearing the evidence against Dr. Robt. B. Henderson, charged with "prescribing, attending and operating" without being a duly qualified practitioner.

The case for the Crown was based on the evidence of two private detectives, who went to the defendant at his office, 44 Canada Life Building, to secure his advice. Dr. Henderson would not give medicine and advise drugs, but he gave the osteopathic treatment. The prosecution, represented by Mr. J. W. Curry, argued that a man could practice medicine without giving applications of drugs or other substances, and the magistrate seemed inclined to accept this view.

"It is a very important question," said his Worship, "and should be finally decided. It is a good opportunity to send the case to the High Courts and have the rights of the men who practice osteopathy settled."

An adjournment was accordingly given, and a stated case will be made out. The defence claims that the Medical Act does not touch the practice of osteopathy.

The view which obtains among physicians in Ontario as to the practice of osteopathy is simple. Examination of a patient, made in order to learn the cause of illness, or infirmity, must precede treatment, and such examination cannot be made legally in Ontario, for hire or hope of reward, unless by a licensed practitioner. The treatment which may be ordered for the patient, after a diagnosis has been made, is in accordance with the medical creed of the practitioner consulted, be he allopath, homeopath or osteopath. In the public interest and to prevent fraud, all persons who practise the art of healing disease in Ontario should be licensed under the Ontario Medical Act.

J. J. C.

THE ACTION OF SULPHATE OF MAGNESIUM IN DISEASE

For depletion through the bowel, the best drug in the pharmacopœia is the sulphate of magnesium. It may be given in teaspoonful doses at intervals of an hour until several liquid stools have been produced. The valuable results in the cure of disease obtained at German spas are largely due to the continuous use of small doses of sulphate of magnesium and other salines in the waters. Equally good results may be obtained in the home of the patient, at much less expense, by a proper use of this salt. The last remark applied more particularly to the treatment of lumbago, myalgia and chronic rheumatism, which often yield to the administration of small doses of sulphate of magnesium, given at short intervals.

Sulphate of magnesium increases the amount of fluid in the alimentary canal. Butler, in his *Text-Book of Materia Medica, Therapeutics and Pharmacology*, says: "This increase of fluid is not a secretion, but a result of the high osmotic equivalent of this salt, which tends to draw the body fluids into the intestines, while hindering, to a certain extent, absorption of fluid from the intestines." Whether the drawing of the body fluids into the intestines is a result of osmosis or of a stimulated secretion, derived from intestinal glands, is yet a disputed question. Most observers are, however, agreed that sulphate of magnesium is an efficient purgative because it retards absorption, thus keeping the intestinal contents fluid and facilitating their passage along the alimentary canal. Wallace and Cushing (Ann Arbor) contend that it is the acid ion, the sulphate in the salt, which is the purgative agent. Thus, sulphate of magnesium which is cathartic is less readily absorbed from the intestines than chloride of magnesium, which is only feebly cathartic. Besides, the acid ions, which form insoluble salts, such as the combination of a sulphate with calcium, are absorbed with difficulty, and when combined with magnesium make a most effective cathartic. The suggestion is, therefore, obvious that when sulphate of magnesium is administered the ions which are concerned in purgation bring it about by preventing absorption from the bowel, and that this in turn results from the formation of insoluble salts, which cannot be absorbed.

The magnesium element itself would also appear to be involved in the production of catharsis by sulphate of magnesium. Sulphate of magnesium and citrate of magnesium are believed to be more effective cathartics than the corresponding salts of potassium and sodium. Besides, magnesium oxide, magnesium chloride and magnesium carbonate possess cathartic properties. The presumption is, therefore, strong that the magnesium ion is not indifferent in the cathartic process, as are the potassium and sodium ions.

Headaches and neuralgias, caused by acute colds, are relieved by free purgation with sulphate of magnesium. Such pains are caused by pressure on the nerves along the upper respiratory tract, especially in the nose. Removal of this pressure brings prompt relief from pain. Depletion of the circulation, with an elimination of the toxins which produce hyperemia, brings relief from the pressure. Pains occurring at the onset of acute diseases, such as la grippe, can be relieved in the same way. In such cases the pain is supposed to be due to the poisoning of the nerve ends by the toxins of the disease, and not to be due to pressure from hyperemia. Elimination of the toxins and depletion of the circulation give relief.

In inflammations of serous membranes depletion by this salt is valuable. The pain of pleurisy is relieved by strapping the patient's chest with adhesive plaster and depleting his blood with sulphate of magnesium. When pain occurs in a joint, relief can be obtained by adopting similar tactics. Even in peritonitis it is possible to produce good results with small doses of sulphate of magnesium, given at short intervals. Nothing will give quicker relief, for instance, in the pain of appendicitis, than small doses of sulphate of magnesium, given every half hour, day and night, until pain is relieved.

In conditions of sluggish secretory activity, when the kidneys are unable to do their complete eliminative work, sulphate of magnesium is indicated. If it is desirable to cause the disappearance of dropsical fluids from the tissues, its administration is effective. The increased secretion, poured into the intestines, accounts for the efficacy of sulphate of magnesium in edematous conditions.

J. J. C.

MEDICAL JOURNALISM IN CANADA

"AMONG the many problems engaging the medical profession in Canada at present, one of the most urgent is that relating to the medical press. The present state of affairs is as follows: There are nine medical journals published in the country—one in the Maritime Provinces, three in the Province of Quebec (two of which are in French), four in Ontario, and one in British Columbia. Of these the best known are the *Montreal Medical Journal*, the *Canada Lancet*, the *Canadian Medical and Surgical Journal*, the *Dominion Medical Monthly*, and the *Canadian Practitioner and Review*. It cannot be said that, apart from the first named, any of these journals has any serious scientific standing. In fact, they are subscribed to partly on account of the local professional news they contain and partly for more personal reasons. As a consequence the *clientele* of each journal is a very confined one, and no single one appeals to a very large circle of readers. Indeed, it is probable that each of the three London weekly medical journals reaches an audience considerably more extensive than any Canadian journal. There is, it will be noticed, no Canadian weekly medical journal in existence. This lack has been keenly felt of late years, and an active body of physicians, prominent among whom is Dr. McPhedran, of Toronto, have made many attempts to remedy it. The most obvious course would seem to establish a journal under the auspices of the Canadian Medical Association, and this body has actually agreed to the proposal."

The above article appeared on June 2nd last in *The Medical Press and Circular*, England.

The Medical Press and Circular has, we are sorry to say, started on the lofty career of Busybody and Gossip. What a pity! It always seemed to us, in this lovely land where things are doing, and minds broadening, that in sleepy old England, the land where things are done, the pose of the medical journalist was one of dignity, not "messaging" around (to use an English expression) in other people's business. We are sorry that the gentleman representing the *Medical Press* has not been quite correctly informed. *The Montreal Medical Journal* is valued for what it is. The four journals mentioned, published in Toronto, cover a wide field and command the respect scientifically and the support financially of almost the entire medical profession of Canada, and have a comparatively large circulation in the United States.

As for Britishers, we always thought they only became deeply

interested in colonial affairs and magazines when they wanted something—a Dreadnought—our Boys to place them in front in battle, or perchance to send us a Governor-General. Fancy our importance as medical journalists, when we get a “mention” even by a doorkeeper in the great English house of medical journalism! We sincerely hope that *The Medical Press and Circular* has a wider field of circulation than we thought it had, namely, its own town, because it might publish our name abroad to the children of men now sitting in darkness. We wonder if that publication ever heard the story of the cook who was a witness at an inquest and demanded an increase in her wages from her mistress next day, saying: “M’am, me name is in the papers; it’s the proud woman I am this mornin’.”

Toronto comrades Three, dip your quills in joy ink and let us raise our subscription price. We have waked up this morning to find ourselves famous.

Thanks, *Press and Circular*. A health to you!

W. A. Y.

“THE UNSATISFACTORY CANADIAN PATENT MEDICINE ACT”

UNDER the above caption the editor of *The Journal of the American Medical Association* has taken upon himself, in his issue of Sept. 25th (page 1034), quite uninvited, to criticize the new Canadian Patent Medicine Act, which came into force last April. He claims that “the law has been framed with a view rather to appeasing public clamor than to furnishing public protection,” and refers to different clauses in the Act as “Joker Number One,” “Joker Number Two.” Just why the editor of the *Journal of the A. M. A.* takes upon himself the office of Major Domo of the Canadian drug laws is a query. Especially so, in view of the quite unnecessary and ‘resultless’ fuss he has tried to stir up in his own country.

We are at a serious loss to learn the ingredients of the self-esteem nerve tonic this gentleman takes. It really should be writ large on the label and filed away in the archives of drugdom.

All physicians in Canada are a unit on the subject of pure drugs and proper public protection, and the drug houses of reputable name comply with, not only the letter, but the spirit of the

law, both in Canada and the United States. Then why this wish on the part of the writer of the article referred to to question the wisdom of the lawmakers and degrade by suspicion the law-observing drug manufacturers? We wish respectfully to state that Canada is capable of being "mistress in her own house." Also, sir, the "legislative gold-bricks" of which you speak are not handed out. Canada is wise; her gold-bricks are kept out of sight for a nice little present for the Yankee son-in-law.

W. A. Y.

THE OPENING MEETINGS OF THE ACADEMY OF MEDICINE

THE opening meeting of the Academy of Medicine, Toronto, took place in the Biological Building of the University of Toronto, Queen's Park, on the evening of Tuesday, October 5th. Dr. Alexander McPhedran, the newly-elected President, was in the chair, and was accompanied to the platform by Dr. C. J. Hoover, of Cleveland, Ohio. The meeting was well attended, over one hundred Fellows being present. Dr. McPhedran delivered his Presidential Address, which we reproduce in this issue. The Address is practical and contains many valuable suggestions as to the Academy and its future deliberations, the carrying out of which augurs well for the success of a most worthy institution. The subject of the evening under discussion was "Gastro Duodenal Ulcer," and was treated under three heads: (a) Diagnosis, by Dr. W. P. Caven; (b) Medical Treatment, by Dr. C. J. Hoover, of Cleveland, O., and (c) Surgical Treatment and Indications Therefor, by Dr. Ingersoll Olmsted, of Hamilton. The different papers were most interesting, instructive, and, combined with the discussions which followed, made a splendid evening's programme.

The first meeting of the Section of Medicine took place on Tuesday, October 12th. Chairman Dr. Harley Smith presided, with Dr. N. K. Wilson as Secretary. Papers were presented by Dr. J. T. Fotheringham, Dr. H. B. Anderson and Dr. V. E. Henderson, their subjects being, "Diseases of the Myocardium," "Ruptured Compensation and Its Treatment," and "The Effects of Some Ordinary Heart Remedies in Myocardial Diseases." The Chairman delivered a short address dealing with the history of medicine, and, without the aid of notes, interested his audience,

which was exceedingly good, in his subject with his choice of language and clearness of diction. We give those of our readers who were not present the benefit of reproducing on another page of this issue Dr. Harley Smith's address.

We trust that the winter's work at the Academy will be entered into with zest on the part of every Fellow, and that, as suggested by the President, as much, if not more, time be devoted to discussions than formerly.

W. A. Y.

THE ONTARIO MEDICAL COUNCIL

THE profession at large in the Province of Ontario will be glad to know that Doctor Spankie, ex-President of the Council, represented that body at the meeting of the four Western Provinces at Banff. It was, of course, unfortunate that the Council had not wakened up a little earlier, so that the Councils of the Western Provinces could have had representatives from Ontario meeting with them, on the understanding that there was to be a federation of five Provinces instead of four. The presence of Doctor Spankie at the conference, however, will have a very good effect, we are certain, in convincing the Councils of the Western Provinces that Ontario is prepared to join with them, and that as soon as that conference has reported to the respective Councils represented, there will be another meeting called, at which, we trust, Ontario will have full representation, and will be able to get into the federation. But we would like to point out to the Ontario Medical Council that it must be constantly on the watch for any move that may take place, and it might be well for it to consider, as we suggested last month, the re-opening of the discussion of federation among the Provinces, or of the Roddick Bill itself. The latter, we feel, is above all the thing to be desired.

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EDITORIAL NOTES.

Treatment of Uremic Coma.—The late stage of uræmic coma is, at the best, a desperate condition, for which little can be done. While, however, it may not be possible to rescue a deeply-poisoned patient from this perilous state, useless drugs and obsolete methods of treatment should be withheld. Such a therapeutic attitude may redound more to the science of the doctor than to the curing of the patient, but, looked at even by a lay bystander, it is more seemly that good sense and scientific knowledge should illuminate the therapeutic scene rather than hysteria or quackery. Two drops of croton oil, diluted with two teaspoonfuls of milk, or one-sixth of a grain of elaterium, should be given at once. Half a grain of sulphate of morphia, with one-hundredth of a grain of sulphate of atropine, should be injected subcutaneously. If the fits recur, another quarter of a grain of morphine, with atropine 1-200, is given in three hours' time. These doses of morphine and atropine are repeated, if necessary, every two hours, up to two grains of morphine and one-twenty-fifth grain of atropine in the twenty-four hours. Writing in "Index of Treatment by Various Writers," Samuel West says: "It (morphine) is probably safer in granular kidney than in acute nephritis, but it can be given without much risk even in the latter." Even in modern times venesection is advised in uremic coma. Why draw the patient's blood, when the uremic convulsions can be controlled by morphine? Thorough and complete catharsis, by pill, draught and enema, are of the first importance in the treatment of uremic coma. If the patient should recover consciousness, a carefully regulated diet, a quiet life under medical supervision, are to be enjoined till life's fitful fever is over.

Tetanus and Vaccination.—In addition to keeping a first-class vaccine farm, with all that such a qualification implies—clean, sound cattle, clean attendants, clean methods of removing and storing vaccine, etc.—care should be taken that the output of a vaccine farm is not contaminated with tetanus. On this point we read in "Practice of Medicine," Osler, 6th edition, p. 127: "Tetanus.—McFarland has collected ninety-five cases, practically all American. Sixty-three occurred in 1901, a majority

of which could be traced to one source of supply, in which R. W. Wilson demonstrated the tetanus bacillus. Most of the cases occurred in Philadelphia. Since that date McFarland tells me that very few cases have been reported. The occurrence of this terrible complication emphasizes the necessity of the most scrupulous care in the preparation of animal virus, as the tetanus bacillus is almost constantly present in the intestines of cattle." In other words, the danger of producing tetanus through vaccination proceeds from the vaccine used. Hence, it is the duty of the vaccine manufacturer to supply a vaccine, which has been tested against tetanus before it is placed on the market. We would go further and say, that no bovine vaccine should be allowed on the market which does not show proof, on the authority of Government experts, that it has been tested against tetanus and found refractory. If the public are to be compelled by law to resort to vaccination, they must have every legitimate guarantee of the soundness of the vaccine employed—its freedom from death-dealing bacteria. Remarks on cleanly methods of vaccination are uncalled for in a medical journal. Some physicians are more careful in their technic than others; but all agree that this little operation should be done in a cleanly fashion. When done, it would be well to see that the spot made in vaccinating is protected with lint or a bandage, in order to prevent the handling of the wound.

Large Hospitals Essential to Medical Progress.—The advantages to the medical profession of a large, well equipped hospital are very great indeed. In addition to the treatment of the patient in the hospital, its influence is educational and benefits the surrounding community. The house staff and the nurses will, sooner or later, minister to the sick in town and country, a large majority of whom will not enter an hospital. The well-classified services of a large hospital give the student, nurse and physician greater experience and a more thorough training. The best work in diagnosis and treatment is produced through co-operation of the visiting staff together with a complete clinical laboratory, where bacterial cultures, blood examinations, etc., can be made, where germicidal sera and antitoxins can be prepared, and where pathological examinations are regularly carried on. Needless to say, a large and competent staff is required to carry out the details of

such varied functions, and it is far easier to have such an extensive staff in a great hospital than in a number of smaller ones. Besides, original experiments can be suitably made in a large hospital, where observation of any particular disease is not limited to a few cases of it, but extends to a large number of cases.

Some Facts About Tea.—According to the late Professor Kenrick, of Winnipeg, the domestic method of making tea extracts theine with greater relative completeness than tannin, a matter of some importance to the household. Besides, green tea contains more tannin than black tea, without reference to the method of making the infusion. These data are brought out in the following figures, which appear in Bulletin 183, Laboratory of the Inland Revenue, Ottawa:

	Laboratory Method of Extraction.				Domestic Method of Extraction.—Kenrick.			
	Number of Samples.	Total Ex- traction.	Theine.	Tannin.	Number of Samples.	Total Ex- traction.	Theine.	Tannin.
Black Teas (averages)	44	31.89	2.47	13.33	23	23.56	2.73	5.29
Green Teas (averages)	19	39.92	2.14	19.47	7	31.38	2.46	9.49

By the domestic method of preparing tea, one understands the pouring of a certain quantity of boiling water on a measured amount of tea, allowing the tea to infuse for a few minutes before it is drunk. By the laboratory method of extracting tea, we are to understand the following: To five grammes of the sample of tea ground to a tolerable degree of fineness, 200 c.c. of water are added and boiled on a sand bath, in a glass flask, for two hours. It is then thrown on a filter, and the residue washed three times with warm water. The filtrate and washings are made up to a definite volume and an aliquot portion is evaporated to dryness at 100 deg. C. The so-called domestic method of preparing tea is not universally adhered to; to put it correctly, there is a right domestic method and a wrong domestic method, the first being the method already described, the second bearing a certain resemblance to the laboratory method of obtaining an extract from tea.

The right domestic method of making tea produces the largest extraction of theine and the lowest extraction of tannin. Working inversely, the wrong domestic method produces a relatively smaller extraction of theine and a very large extraction of tannin. Taken in moderation, theine stimulates the heart, contracts the arterioles, acts as a cerebral stimulant and promotes cheerfulness. Tannin diminishes peristalsis, thus causing constipation, and promotes ill-humor, probably by causing retention of toxins. All women and some men should learn the right domestic way of making tea.

Oiling the Macadamized Roads.—During the past summer, and at present, some of the Toronto streets are treated with coal oil, distributed by means of watering carts. Through the courtesy of Dr. Sheard, M.H.O., Toronto, we are enabled to place before our readers an account of this process. It appears on page 299 of this issue. *Prima facie*, one would say that the watering of street dust, as has been done heretofore, is an effective way of promoting the life of such bacteria as are present in it, water being a powerful solvent of organic matter and a promoter of change in living organisms. The beneficial effect of water applied to the macadamized roads is that it prevents the whirling dust from lodging bacteria in our respiratory passages. Coal oil, sprinkled on the city streets, prevents the dust from assailing our nostrils. It is said to be a disinfectant and parasiticide. The bacteriologists ought to take the question up and give us data, pro or con, as to the inhibiting effects of coal oil sprinkled on city streets on *bacillus coli*.

J. J. C.

PERSONALS.

Dr. G. Sterling Ryerson has returned from Europe.

Dr. Charles Trow, of Carlton Street, was married on September 23rd.

Dr. J. N. E. Brown spent a few days with Mrs. Brown at Atlantic City the last week of September.

Dr. Arthur W. Mayburry, 569 Spadina Avenue, desires to announce to the profession that he has returned from Europe, and resumed work.

Dr. C. A. Langmaid, '06 graduate of Toronto, has returned from the Old Country, after spending three years abroad, attending the hospitals in London, Edinburgh, Glasgow, Dublin and Paris. He has settled at 23 Brunswick Avenue, and will practise general medicine.

We tender congratulations to Dr. J. N. E. Brown, the capable and courteous Medical Superintendent of Toronto General Hospital, upon his election as 1st Vice-President of the American Hospital Association, at its meeting at Washington, D.C., in September. Next year's meeting takes place at St. Louis, Mo.

Any young Canadian physician desiring lucrative occupation who cares to address "Detailer," care this journal, will be promptly placed in communication with one of the largest American manufacturing chemical houses, with Canadian connection, who desires to secure the services of a suitable man and is willing to pay a liberal salary, the position to be permanent. This must appeal to a young, active doctor who does not wish, as yet, to settle down in practice. We would recommend prompt action.

News of the Month.

UNVEILING OF PORTRAIT OF DR. WILLIAM CANNIFF, M.D., M.R.C.S.L.

At the recent convocation of Victoria College an excellent portrait of Dr. William Canniff, of Belleville, was unveiled by his son, H. T. Canniff, Esq., of Toronto.

In introducing Mr. Canniff Dr. Burwash gave a brief outline of the work of Dr. Canniff as an author, a physician and surgeon and a professor in the faculty of Medicine.

Dr. Canniff was a son of that noble stock of U. E. Loyalists who settled the Bay of Quinte County at the close of the eighteenth century. Educated in Victoria College, he was prepared for the profession of medicine in the Toronto School of Medicine then recently founded by the famous Dr. Rolph. He completed his course and received his degree of M.D. in the University of New York in 1854. The next year was spent in the study of surgery in London where he graduated as a member of the Royal College of Surgeons in 1855. He next joined the medical staff of the British army in the Crimea, where he served to the close of the war. Returning to Canada he commenced the practice of his profession in Belleville. In 1859 he was appointed professor of Pathology in his Alma Mater, Victoria College, and shortly after removed to Toronto where the Medical Faculty conducted its work. In a very short time he was transferred to the important Chair of Surgery for which he was eminently qualified by both training and experience. His abilities as a professor were so marked that in 1871, on the retirement of Dr. Rolph through extreme age, he was appointed Dean of the Faculty.

Dr. Canniff was distinguished not only as a skilful surgeon and able teacher of students preparing for the medical profession, but also as an author and historian. His "Settlement of Upper Canada" has become a classic and a standard authority on our early history. His history of "The Medical Profession in Upper Canada" occupies a similar position in another line, while his "Principles of Surgery based on Pathology" and various monographs published in medical journals give evidence of his learning in his chosen profession. During all the years Dr. Canniff maintained his interest in his Alma Mater where, in his youthful days, he had laid the foundations of his successful career; and the

graduates of Victoria showed their appreciation of the man and his work by electing him president of the Alumni Association. Similar honors have fallen to him from other learned bodies in whose foundation and work he took an active part and when he stands on the verge of four score and the active labors of life are nearly ended, it is fitting that this memorial of the man should be placed upon the walls of the College which he served with distinction.

NOTIFICATION OF TUBERCULOSIS

THE September number of *Sláinte*, the organ of the Women's National Health Association of Ireland, publishes the following:

We think our readers will like to have reprinted here a letter sent to us by the eminent medical authority, Dr. W. Osler, Regius Professor of Medicine at Oxford, on the subject of notification of tuberculosis:—

“I am sorry that you are having opposition to the adoption of the compulsory notification of tuberculosis.

“As is so often the case, difficulties vanish when squarely faced, and this has been the history of the question in debate. The experience of New York City is overwhelmingly in favor; at first there was opposition on the part of many medical men, partly on the ground that it would cause hardship to the poor, partly lest the well-to-do should be put to any inconvenience. It is universally acknowledged that the Act works smoothly, and with practically no inconvenience. I am assured by the members of the New York Board of Health that no single measure has been so important in the fight against tuberculosis.

“That notification will cause loss of employment to a large number of persons is in the highest degree improbable. Certainly it has not done so elsewhere.

“Slight increase in the rates may follow notification, just as it naturally follows any great public improvement. No doubt typhus and smallpox correspond with low rates.

“Truth is often unpleasant, and in Ireland you are at present suffering from the shock of the realization of what has been known to the health authorities for many years.

“That working people will hesitate to send for the doctor because of the risks involved in notification applies as little to tuberculosis as it does to typhoid fever or measles, and appears to one to be entirely fanciful.

“That there is to be a cruel crushing of the poor workingman in notification is a myth; there is no class legislation, as the Act applies to rich and poor alike.

"I do wish Dr. McWalter would go to New York and study the work of his brethren—mostly Irish brethren—in this battle against tuberculosis. The conditions are in some ways quite as bad as in Dublin. He would return a wiser and a graver man, and I should not be surprised at the next meeting of the British Medical Association to see him down for a paper 'On the Advantages of Compulsory Notification of Tuberculosis in Dublin.'"

"WM. OSLER."

"Oxford, 2nd September, 1909."

ST. MICHAEL'S NEW STAFF

THE new staff which has just been appointed at St. Michael's Hospital now are:

Surgery.—Dr. I. H. Cameron, first service; Dr. J. F. Uren, sen. asst.; Dr. G. Silverthorn, clin. assist.; Dr. W. McKeown, second service; Dr. W. Scott, sen. assist.; Dr. M. H. V. Cameron, Dr. G. E. Wilson, clin. assist.

Medicine.—Dr. R. J. Dwyer, first service; Dr. W. McCollum, sen. assist.; Dr. B. O'Reilly, Dr. A. Adams, Dr. J. H. McPhedran, clin. assist.; Dr. H. B. Anderson, second service; Dr. J. H. Elliott, sen. assist.; Dr. H. S. Hutchison, Dr. R. W. Mann, Dr. Geo. Smith, Dr. W. H. Pepler, clin. assist.

Gynecology.—Dr. F. Fenton, chief in charge.

Obstetrics.—Dr. A. H. Garratt, assist. in gynecology; Dr. C. H. Page, registrar in gynecology; Dr. M. M. Crawford, assist. in obstetrics; Dr. S. J. Magwood, registrar in obstetrics.

Eye.—Dr. C. H. Burnham, chief; Dr. Newbold Jones, Dr. H. A. McCullough, assist.

Ear, Nose and Throat.—Dr. J. McKenna, Dr. W. Gilday.

Consulting Staff.—Dr. W. Oldright, surgery; Dr. Adam Wright, obstetrics; Dr. J. F. W. Ross, gynecology; Dr. C. Meyers, neurology; Dr. W. Aikens, surgery; Dr. J. Amyot, pathology.

Attendant Physicians.—Dr. J. Guinane, Dr. C. McKenna, Dr. T. J. McMahon, Dr. N. Allen.

Assistant Physicians.—Dr. J. McCormack, Dr. P. W. O'Brien, Dr. F. S. Riches.

Attendant Surgeons.—Dr. E. E. King, Dr. R. B. Nevitt.

Clinical Laboratory.—Dr. D. H. Boddington.

Anesthetist.—Dr. J. F. L. Killoran.

Pathologist.—Dr. George Smith.

Electrician.—Dr. D. Frawley.

House Surgeons.—Dr. T. L. Towers, Dr. F. C. Harrison, Dr. P. B. McFarlane, Dr. C. B. Parker, Dr. H. W. Baker, Dr. G. W. Anderson.

THE CANADIAN MEDICAL ASSOCIATION

The Canadian Medical Association.—The forty-third annual meeting of the Canadian Medical Association convenes in Toronto, under the presidency of Dr. Adam Wright, on June 1st, 2nd, 3rd and 4th, 1910. February 1st, 1910 has been set as the time limit for submitting papers for the annual meeting. Abstracts of all papers are to be in the hands of the General Secretary by April 1st, so as to provide for printing and posting same. The following compose the different committees: Committee of Arrangements, D. J. Gibb Wishart (Chairman), Allen Baines, J. F. W. Ross, R. W. Bruce Smith, Chas. J. Hastings; Transportation and Entertainment, Bruce L. Riordan (Chairman), J. F. W. Ross, George A. Bingham, W. P. Caven, J. M. Cotton, H. A. Bruce, T. B. Richardson, H. A. Beatty, Jas. Spence; Reception and Publicity, R. W. Bruce Smith (Chairman), A. A. Macdonald, Chas. J. Hastings, T. F. MacMahon, John A. Amyot, W. H. B. Aikins, W. A. Young, Fletcher McPhedran; Local Finance and Exhibits, Samuel Johnston (Chairman), J. O. Orr, H. J. Hamilton, J. A. Roberts, O. A. McNichol, W. B. Hendry; Programme, E. E. King (Chairman), A. H. Wright, D. J. Gibb Wishart, George Elliott, Helen MacMurchy; Credentials, A. Primrose (Chairman), R. J. Dwyer, C. P. Lusk, H. T. Machell; Price Brown; Surgery, F. N. G. Starr (Chairman), I. H. Cameron, Walter McKeown, C. L. Starr, A. H. Perfect, A. B. Wright; Medicine, H. B. Anderson (Chairman), A. McPhedran, John Ferguson, J. S. Hart, A. R. Gordon, B. O'Reilly; Obstetrics and Gynecology, S. M. Hay (Chairman), K. C. McIlwraith, Fred. Fenton, F. W. Marlow, H. E. Clutterbuck; Eye, Ear, Nose and Throat, G. R. McDonagh (Chairman), R. A. Reeve, J. M. MacCallum, Gilbert Royce; Pathology, J. J. Mackenzie (Chairman), O. R. Mabee; Pediatrics, Allen Baines (Chairman), Wm. Goldie, Jos. Graham.

ALCOHOL AND TUBERCULOSIS

At the meeting of the British Medical Association, in Belfast, considerable time was given to the subject of the scientific study of alcohol and alcoholism. In an exceedingly interesting and instructive address given by Dr. T. N. Kelynaek, of London, and reported in the Belfast *Advocate*, we notice the following sentences bearing upon the question of tuberculosis and alcoholism. The testimony is certainly striking and convincing: "In the case of

certain diseases, alcoholism and its associated conditions, especially such as non-hygienic habits of life, domestic neglect, and poverty, with its manifold consequences, induce a special proclivity or predisposition to disease. This is particularly the case in regard to such a socio-medical malady as tuberculosis, the great white plague, which you here in Ireland, under the leadership of her Excellency the Countess of Aberdeen, are fighting so bravely and wisely. In the discussion on the relation of alcoholism to tuberculosis it was shown that, instead of alcoholism being antagonistic to this disease, as was formerly believed, alcohol acts as a fertilizer of the human soil for the upspringing of the death-dealing tuberculosis seed. The opinion of Knopf was quoted that 'it is not only well-known that alcoholism predisposes to tuberculosis, but it has also been statistically demonstrated that the children of alcoholic parents contract tuberculosis more readily than children of temperate parents.'—*Exchange*.

The Canadian Medical Exchange, conducted by Dr. Hamill, Medical Broker, King and Yonge Sts., wishes us to announce that at the present time he has a very desirable list of registered buyers who are seeking locations to practise medicine, and that he is in a position to dispose of any medical practices and property which are inviting. All prospective buyers are bound legally and morally against publicity, piracy, or offering opposition if they do not buy.

The doctor would be glad to give details of his plan of negotiations to any intending vendors.

For fifteen years the Medical Exchange has been buying and selling medical practices along lines which have been entirely satisfactory to the profession.

The Physician's Library.

BOOK REVIEWS

American Pocket Medical Dictionary. Edited by W. A. NEWMAN DORLAND, A.M., M.D., Assistant Obstetrician to the Hospital of the University of Pennsylvania; Fellow of the American Academy of Medicine, etc. Containing the pronunciation and definition of all the principal terms used in medicine and the kindred sciences, along with over sixty extensive tables. Sixth edition, revised and enlarged. Philadelphia and London: W. B. Saunders Co. 1909.

The writer of this dictionary has succeeded in adding to one of the most useful books to be found on the present-day doctor's table. This addition consists in making his little book still more perfect.

A. J. J.

The latest books from The Blakiston Press.

The firm of P. Blakiston's Son & Co., of Philadelphia, have always been known as publishers of most important medical works; in fact, a large number of the latest contributions to medical literature will be found in the Blakiston catalogue. The following is a partial list of the volumes recently gotten out by this firm:

Gatewood. *Naval Hygiene.* By James Duncan Gatewood, M.D., Instructor in Naval Hygiene, United States Naval Medical School, Washington. With eight Colored Plates and 105 other illustration. Octavo. xiv + 779 pages. Cloth, \$6.00; half morocco, \$7.50.

Gould. *Biographic Clinics.* By George M. Gould, A.M., M.D. Complete in six handsome volumes. Price of each volume, cloth, \$1.00. Vol. VI.—*Essays Concerning the Influence of Visual Function, Pathologic and Physiologic, upon the Health of Patients.* 12mo. viii + 492 pages.

Knight and Bryant. *Diseases of the Nose, Throat and Ear.* By Charles H. Knight, M.D., Professor of Laryngology, Cornell University Medical School; and W. Sohier Bryant, M.D., Adjunct Professor, Department of Diseases of the Ear, New York Post-Graduate Medical School and Hospital. Second Edition Revised and Enlarged. Octavo. xix + 631 pages; 239 illustrations. Cloth, \$4.50.

Tyson. *The Practice of Medicine*. Fifth Edition, Revised. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania. Fifth Edition, Revised and Enlarged. 5 Plates and 245 other illustrations; 13 in colors. Octavo. xxv + 1438 pages. Cloth, \$5.50; half morocco, \$7.00.

Potter. *Therapeutics, Materia Medica, and Pharmacy*. Eleventh edition, enlarged. Including the Physiological Action of Drugs, Special Therapeutics of Diseases and Symptoms. By Samuel O. L. Potter, M.A., M.D., M.R.C.P. (Lon.), formerly Professor of the Principles and Practice of Medicine, Cooper Medical College, San Francisco. Eleventh Edition, Revised and Enlarged in accordance with the latest reprint U. S. Pharmacopeia. 8vo; xiv + 937 pages. With Thumb Index in each copy. Cloth, \$5.00; half morocco, \$6.50.

Rockwood. *Chemical Analysis*. Introduction to Chemical Analysis for Students of Medicine, Pharmacy and Dentistry. By Elbert W. Rockwood, M.D., Ph.D., Professor of Chemistry, Toxicology and Metallurgy in the College of Medicine, University of Iowa, Iowa City. Third Revised Edition. Illustrated. 12mo; ix + 242 pages. Cloth, \$1.50.

Webster. *Diagnostic Methods, Chemical, Bacteriological and Microscopical*. By Ralph W. Webster, M.D., Ph.G., Asst. Professor of Pharmacologic Therapeutics, and Instructor in Medicine, Rush Medical College (Medical Department, University of Chicago); xxxiv + 641 pages, with 37 Colored Plates and 164 other Illustrations. Cloth, \$6.00; Half Morocco, \$7.50.

Beard. *Treatise on Ophthalmic Surgery*. By Charles H. Beard, M.D., Surgeon to the Illinois Charitable Eye and Ear Infirmary (Eye Department), Octavo. With over 250 Illustrations. In Press for early publication.

Binnie. *Operative Surgery*. A Manual for Practitioners and Students. By John Fairbairn Binnie, A.M., C.M. (Aberdeen); Professor of Surgery, Kansas State University. Fourth Edition, Revised and Enlarged. The Leather-Bound Series of Manuals in two volumes. Vol. II.—Vascular System, Bones and Joints, Amputations. 550 Illustrations. Full Limp Leather, Gilt Edges, Round Corners, \$3.50.

A Theory Regarding the Origin of Cancer. By C. E. GREEN. Second edition. Edinburgh and London: William Green & Sons. 1909. Pp. 46.

In this short essay, in which the author upholds the theory of the parasitic origin of cancer, an attempt is made to account for this method of the production of the disease in individuals who are employed in various trades. Reference is made to the fact that in different trades the death rate from cancer varies.

The author of the monograph, after studying the variations in question, has concluded that there must be some definite cause for the results which are thus noted. He has come to the conclusion that, in all probability, cancer is engendered as the result of the influence exerted by the action of sulphates and sulphuric acid which stimulate the activity of the organisms. His argument will be found somewhat ingenuous in establishing the claim that these substances play an important role as etiological factors in the production of cancerous growth.

A. P.

Clinical Treatises on the Symptomatology and Diagnosis of Disorders of Respiration and Circulation. By PROF. EDMUND VON NEUSSER, M.D., Professor of the Second Medical Clinic, Vienna; Associate Editor, Nothnagel's "Practice of Medicine." Authorized English translation, by Andrew McFarlane, M.D., Professor of Medical Jurisprudence and Physical Diagnosis, Albany Medical College; Attending Physician to St. Peter's and Child's Hospital and Albany Hospital for Incurables. Part III., Angina Pectoris. New York; E. B. Treat & Co. 1909.

This is a treatise on the subject of angina pectoris. It deals with the diagnosis, etiology, functional forms of, differential diagnosis, theories and therapy of the disease. The first chapter, dealing with the symptomatology, is especially good, the paragraphs on the pain and its radiations and variations, and the consideration of the arterial pressure being of special interest.

The translation of the work is such as to render its perusal a pleasure. As an up-to-date consideration of the subject it is the best monograph we have seen.

W. J. W.

Hand-Book of Diseases of the Rectum. By LOUIS J. HIRSCHMAN, M.D., Detroit, Mich., U.S.A.; Fellow American Proctologic Society; Lecturer of Rectal Surgery and Clinical Professor of Proctology, Detroit College of Medicine; Attending Proctologist, Harper Hospital; Consulting Gynecologist, Detroit German Polyclinic; Collaborator on Proctology, "Physician and Surgeon"; Editor, *Harper Hospital Bulletin*; Chairman, Section on Surgery, Michigan State Medical Society; ex-President, Alumni Association, Detroit College of Medicine, etc. With 147 illustrations, mostly original, including two colored plates. St. Louis: C. V. Mosby Medical Book and Publishing Co. 1909.

This work contains 363 pages of reading matter and is well illustrated. The author has written a very complete monograph on diseases of the rectum, and has included in his treatise not only

the operative means of dealing with such conditions, but also treatment by internal medication. It is not necessary to review in detail special features of the book, excepting to state that it is very complete and exhaustive in the treatment of the subject. The various statements of fact regarding diagnosis are set forth in a lucid style, and the treatment suggested appeals to one as being very thorough and sane. The book is to be recommended as a useful guide to practitioners in the management of such conditions.

A. P.

Dictionary of Ophthalmic Terms, with Supplement. By EDWARD MAGEMUS, M.D., D.P.H., Ophthalmic Surgeon to St. Michael's Hospital, Kingstown. Bristol: John Wright & Sons, Ltd. 2s. 6d. net.

In some sixty-seven pages is given a dictionary of ophthalmic terms, many of which are not found in the ordinary medical dictionary. In addition there are short sections on mydriatics, table of approximate equivalents, directions for testing the vision, the ordering of glasses, formulæ for some of the commoner diseases of the eye. The hints in these sections should be valuable to the general practitioner.

J. M.

Children in Health and Disease. A Study of Child-life. By DAVID FORSYTH, M.D., D.Sc., Physician to the Evelina Hospital for Sick Children; Assistant Physician (late Physician in Charge of the Children's Department) and Joint Pathologist, Charing Cross Hospital. With frontispiece. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1909. (Printed in Great Britain.)

The public of recent years has taken up the subject of child-life with considerable interest. This movement has specially concerned itself with the health of the young, which has been recognized as the essential factor in their lives. For the future, therefore, medical men will require a broader experience of children than is obtainable in the sick-room alone, and modern opinion also demands that the educationalist should regard the health of their scholars an important part of their province.

For these reasons this book, dealing as it does with child-life in health as well as in disease, has been written. It treats of the child physiologically, anti-natal, natal and post-natal; psychologically from birth on; educationally, as the hygiene of schools, medical aspects of school-life, medical inspection and supervision of school children, the training of children, feeble-minded and otherwise. The greater portion of the work deals with the child in health.

The author has consistently borne in mind the great impor-

tance of contrasting juvenile and adult qualities, rather than pointing out their resemblances.

We would recommend our educationalists and publicists, as well as the members of our own profession, to peruse this volume, as the doctrines found therein are substantial and based on science.

W. H. P.

A Manual of Volumetric Analysis. Treating on the subjects of indicators, test-papers, alkalimetry, including assays of drugs by titration, acidimetry, analysis by oxidation and reduction, iodometry, determinations by precipitation and by color comparison. By VIRGIL COBLENTZ, Ph.D., Phar.M., F.C.S., Professor of Chemistry in the New York College of Pharmacy. Second edition, revised, completely reconstructed and enlarged, by Anton Vorisek, Phar.D., Professor of Analytical Chemistry in the College of Pharmacy, Columbia University, N.Y., With thirty-seven illustrations. Philadelphia: P. Blakiston's Son & Co. 1909. \$1.75 net.

The author states that this manual is intended to provide a systematic introduction to the principles and methods of volumetric analysis based on modern theories. In it especial attention has been given to the theory of ionization and its application to indicators, also the necessary precautions as to dilution, temperature and the influence of disturbing elements.

The preparation of the second volume was undertaken with the view of enlarging its scope and adapting it still more to the needs of the laboratory and the class-room.

A. E.

American Practice of Surgery. A complete system of the science and art of surgery, by representative Surgeons of the United States and Canada. Editors: Joseph D. Bryant, M.D., LL.D.; Albert H. Buck, M.D., of New York City. Complete in eight volumes. Profusely illustrated. Volume VI. New York: William Wood & Co. 1909.

Volume VI. of "American Practice of Surgery" is perhaps one of the best so far issued. We are pleased to notice amongst its contributors the names of our Canadian confreres, Drs. Geo. E. Armstrong, John M. Elder, and F. J. Shepherd, of Montreal. The fact of these gentlemen having contributed three of the most important chapters in this volume will alone add interest to the work as a whole, especially to Canadians. Dr. Geo. E. Armstrong contributes the chapter devoted to "Surgical Diseases and Wounds of the Mouth, Tongue and Salivary Glands." To Dr. Elder falls the section on "Surgical Diseases and Wounds of the Neck," and that devoted to "Surgical Diseases and Wounds of the Thyroid and Thymus" comes from the pen of Dr. Shepherd. These three chapters are masterpieces. The volume also contains very valu-

able material from such men as Dr. F. J. Balch, of Harvard Medical School; Dr. J. C. Bloodgood, of Johns Hopkins University; Dr. Hugh Cabot, of Massachusetts General Hospital; Dr. W. P. Graves, of Boston; Dr. H. P. Mosher, of Harvard Medical School; Dr. H. G. Mudd, of Washington University; Dr. C. R. Turner, of Philadelphia, and Dr. N. B. Carson, of the Medical Department, Washington University. We have taken the opportunity in previous reviews of complimenting both the authors and publishers of "American Practice of Surgery," and Volume VI. is but a continuation of their previous record.

W. A. Y.

Atlas and Epitome of Ophthalmoscopy and Ophthalmoscopic Diagnosis. By PROFESSOR DR. O. HAAB, of Zurich. Edited, with additions, by George E. deSchweinitz, M.D., Professor of Ophthalmology, University of Pennsylvania. Second revised edition, with 152 colored lithographic illustrations and 94 pages of text. Philadelphia and London: W. B. Saunders Co. 1909. \$3.00 net. Canadian agents: The J. F. Hartz Co.

Many of the external diseases of the eye, especially corneal conditions, are practically impossible of illustration. These Prof. Haab has wisely left alone. Those illustrated are singularly well done for so small a book. The book is by no means a mere atlas, rather is it an illustrated clinic on the external diseases of the eye. One is surprised to find the introductory chapter devoted to methods of examination of the eye in disease. The various external diseases are then illustrated and a concise clinical account given of each, together with its pathology and treatment.

The companion volume on ophthalmoscopy and ophthalmoscopic diagnosis is essentially an ophthalmoscopic atlas. There is no similar compact English atlas, they being much more elaborate and expensive, and yet not any more authoritative. J. M. M.

The Blood in Health and Disease. By R. J. M. BUCHANAN, M.D., F.R.C.P. University of Liverpool, Oxford Medical Publications, 318 pages, illustrated. Canadian representatives: D. T. McAinsh & Co., Toronto.

This book is written in an attractive style which suggests the clinician rather than the laboratory worker as its author. The discussions are full and include most interesting and convincing studies on the genesis of the various cell constituents of the blood. The functions of the platelets are considered at some length, and due attention is given to the estimation of calcium content in the blood and the problems of coagulation. Wherever these discussions are at all controversial a full bibliography is given on each page, and the citations are in some cases as recent as January, 1909. The anemias are thoroughly dealt with, and a table of dif-

ferential diagnosis from the laboratory standpoint is given as a summary at the end of the chapter. The sections on the various anemias and leukemias are closed by concise statements regarding treatment. The latter part of the work is given to a description of the blood in many special diseases. The index is full, and the illustrations cannot be too highly praised. There are twenty colored plates, and every one is made from original drawings by the author. The book should be a useful acquisition to the practitioner. The matter is well arranged and the methods taught are thoroughly up-to-date.

M. H. V. C.

Refraction and How to Refract. Including sections on optics, retinoscopy, the fitting of spectacles and eyeglasses, etc. By JAMES THORINGTON, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine. Fourth edition, \$1.50 net. Philadelphia. P. Blakiston's Son & Co. 1909.

The fourth edition of this well and favorably known little hand-book differs from former editions chiefly by the addition of a new method of judging from the visual acuity for the letters of the test card what spherical lens will give the patient normal vision. As the method requires that the patient shall be under a reliable cycloplegic the method is not so attractive as appeared at first sight.

J. M.

Gonorrhea in Women. By PALMER FINDLEY, M.D., Professor of Gynecology in the College of Medicine of the University of Nebraska, Omaha; Gynecologist to the Clarkson Memorial Hospital and Wise Memorial Hospital; Fellow of the American Gynecological Society. Published by C. V. Mosby Medical Book and Pub. Co., St. Louis, Mo.

Gonorrhea in women. No more important subject to physicians and surgeons could be written upon. According to recent statistical reports nearly 50,000 prostitutes die annually, and about one-third of this mortality is due to the direct effects of gonorrhea. Besides, the number of innocent women who suffer from the direful ravages of gonorrhea is too dreadful to contemplate. The work opens with an interesting historical sketch, and then the etiology and pathology of the disease are fully elaborated upon. One of the most important chapters of the book is that "On the Course of Gonorrhea Infection," more particularly that relating to "Latent Gonorrheal Pelvic Infections" and "Gonorrheal Puerperal Infection," all of which is treated both expertly and scientifically. The short but impressive chapter on the sociological aspects of gonorrhea is most interesting.

The diagnosis and treatment of the disease are very complete

and thoroughly up-to-date. The author has handled the whole subject skilfully, learnedly and artistically. The book should be in the hands of every medical practitioner as well as the specialist.

G. T. M'K.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. Part VIII., Gout. By PROF. DR. H. STRAUSS, Professor of the Third Clinic, Royal Charity Hospital, Berlin. Authorized American edition. Translated under the direction of Nellis Barnes Foster, M.D., Associate Physician to the New York Hospital; Associate in Biological Chemistry, College of Physicians and Surgeons, Columbia University. New York: E. B. Treat & Co. Price, \$1.00. 1909.

This is a brief resume of a contribution on the pathogenesis and therapeutics of gout, published seven years ago by Prof. Strauss, with the object of giving a concise picture of the modern conceptions of the nature and treatment of that disease.

A large amount of new material has been added, with the result that one may rapidly review the subject as it is understood to-day. The author traces the origin of uric acid to (1) the disintegration of the nuclein-containing substances of the body, and (2) from the nucleins in the food. He accounts for the localization of the deposits to the poor blood and lymphatic supply of these parts. The retention of the uric acid he believes mostly due to defective elimination by the kidneys.

This is a work of seventy pages, and is well worth a careful reading.

W. J. W.

An Introduction to Chemical Analysis. For Students of Medicine, Pharmacy and Dentistry. By ELBERT W. ROCKWOOD, M.D., Ph.D., Professor of Chemistry and Toxicology in the University of Iowa. Third revised edition, with twenty illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1910.

The object of this work is to furnish an introduction to the study of quantitative and volumetric analysis. Instruction is given in the simpler methods of examining metals, acids and organic compounds.

Probably the most interesting chapter to the beginner in the study of medicine is the part relating to applied analysis, in which instruction is given in the sanitary examination of water and the detection of poisons.

This book, with its 240 odd pages, furnishes easy lessons in chemical analysis for students in medicine, pharmacy and dentistry.

A. E.

5,000 Facts About Canada. Arranged alphabetically under subjects. Compiled by FRANK YEIGH, Toronto. Publishers: The Canadian Facts Publishing Co., 667 Spadina Avenue, Toronto.

This little pamphlet contains a fund of information in reference to Canada, which will be found of very considerable interest. It is divided into sections dealing with agriculture, dairying, the area of Canada, banks and bonds, canals, education, finance, life insurance, fisheries, immigration and such like. The pamphlet sells for twenty-five (25) cents, and is indeed a *multum in parvo*.

W. A. Y.

The G. & C. Merriam Company, of Springfield, Mass., have just issued Webster's New International Dictionary, based on the International of 1890 and 1900. The revision has been so radical and complete as to constitute a new book. The work has been in active preparation for many years, by a large staff of experts, assisted by the contributions of eminent specialists, under the general supervision of Dr. W. T. Harris, recent U. S. Commissioner of Education. The number of words and phrases defined has been greatly increased, mainly from the fresh coinage of recent years, both in popular speech and in the various arts and sciences. The revival of early English studies is recognized by such an inclusion of obsolete words as to give a key to English literature from its earliest period. The title-words in the vocabulary are more than doubled in comparison with the old International, now exceeding 400,000. The number of illustrations is increased to over 6,000. The book contains more than 2,700 pages. But the publishers desire to emphasize the quality rather than the quantity of the work, calling attention especially to the thorough scholarship in all departments and the fulness of information under important titles. By ingenious methods of typography and arrangement, the increased amount of matter is contained within a single volume, not perceptibly larger than its predecessor, and no less convenient for the hand and eye.

The Practical Medicine Series. Volume VII.—Pediatrics. By ISAAC A. ABT, M.D., with the collaboration of May Michael, M.D. Orthopedic Surgery. By JOHN RIDLON, A.M., M.D., with the collaboration of A. Steindler, M.D. Published by the Year Book Publishers, 40 Dearborn Street, Chicago.

This volume is one of a year book series on practical medicine. There are ten volumes in all, setting forth the year's progress in medicine and surgery. The extent of the entire series permits a wide reference to the new work done, and in justice it must be said that the material collected is not only extensive but well pre-

sented and indexed. The busy practitioner can here find the best results of the year's advancement gathered into a compact volume covering pediatrics and orthopedic surgery. B. E. M.

International Clinics. A quarterly of illustrated and especially prepared original articles on treatment, medicine, surgery, neurology, pediatrics, obstetrics, gynecology, orthopedics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, and other topics of interest, by leading members of the medical profession throughout the world. Edited by W. T. LONGCOPE, M.D., Philadelphia, U.S.A. Volumes II. and III., XIX. Series. Philadelphia and Montreal: J. B. Lippincott Co.

The present volumes of this well-known publication contain much that is of interest in the various departments of medicine. Each volume deals with a great variety of conditions.

The first article in Volume II. is a contribution by Harlan Shaemaker on "Immunization in Typhoid Fever." The author's conclusions are: (1) There is undoubted evidence of the value of inoculation; (2) that two or more inoculations are necessary; (3) more investigation is necessary regarding the strength and duration of protective substances; (4) at present the method of determining the strength of a vaccine is liable to considerable error.

"Pneumonia in Children: Diagnosis and Treatment" is the title of an article by Louis Fisher, M.D., of New York. The author draws attention to the peculiarities of this disease in childhood. Treatment is dealt with under four headings: elimination, nutrition, rest, guarding against complications. He also points out that the New York Board of Health recognizes pneumonia as a communicable disease, and requires isolation of the patient.

"Psychasthenia," a peculiar phase of the neurasthenic condition in which the patient is troubled by obsession doubts, fears, mental anguish, etc., in addition to the physical signs of neurasthenia. The author makes this a subdivision of neurasthenia.

"Congenital Familial Splenomegaly with Chronic Acholuric Jaundice," by F. Parker Weber, M.D., F.R.C.P., London, draws attention to this rare condition. Brief sketches of several cases are incorporated in the article.

"The Pathogenesis of Spontaneous Cerebral Hemorrhage" is the subject of an excellent paper by A. G. Ellis, M.D., Associate in Pathology, Jefferson Medical School. The illustrations in this article are most instructive and are taken from the author's preparations from brains studied.

On the surgical side there is a valuable paper by Schwatt, of Philadelphia, on the "Treatment of Abscess, on Hip Joint Disease."

Other articles in this volume are: "Tuberculous Sero-Fibrinous Pleurisy and Its Treatment," by Allyn, of Philadelphia; "Congenital Dilatation of the Colon" (illustrated), by Peter Daniel, London; "Diabetes," by Wells, of the University of Illinois; "Krausosis Vulvæ," a peculiar skin affection, with report of two cases, by R. F. Woods, Philadelphia; "Intraocular Tumor," by Leslie Buchanan; "Refrigatory Paralysis of the Facial Nerve," by Peck, of Johns Hopkins University.

Noteworthy articles in Volume III. are: "A Clinical Lecture on Grave's Disease, Raynaud's Disease, and Allied Disorders," by Soles Cohen, of Philadelphia; "Gonococcic Septicemia," by Dieulafoy, of Paris; "Surgery of Exophthalmic Goitre," by Ochsner, of Chicago; "The Present Position of Antitetanic Serotherapy," by Lagane, Paris.

"Women in Medicine" is the subject of an historical sketch by James J. Walsh, M.D., of New York. The part played by women during the middle ages and in connection with the great university schools of Southern Europe was especially dwelt upon by the author.

Leo Buerger, of Mt. Sinai Hospital, New York, has a paper on "Thrombophlebitis," with histories of a large number of cases. The disease is becoming exceedingly common among the Polish and Russian Hebrews. The author has collected fifty cases occurring during the last three years.

The section on gynecology contains an extensive report by Laphorn Smith of cases operated upon by him at the Samaritan Hospital, Montreal. Many of the cases are interesting and the results obtained satisfactory. While this is true in the main, we believe that the great mass of medical opinion throughout the world would strongly discountenance the practise of the author in the removal of the ovaries for quite inadequate causes. It is astonishing at this time to find a surgeon advising in the case of a girl of twenty-five who suffered from dysmenorrhea, "either marriage or removal of ovaries." Fortunately the author's advice was not acted upon. Case 1568, described by the author with, we think, questionable taste, as one of "old maid's ovaries," "retroversion and chronic appendicitis," impresses us as a shocking example of wanton mutilation under the guise of surgery. The patient was only thirty-six, complaining of chronic pain over the lower abdomen and tenderness over McBurney's point. Chronic appendicitis was diagnosed, and rightly, for at the operation the author removed a tender, adherent and bound-down appendix. The ovaries, as he says, were, however, discovered to be "cirrhotic," and forthwith removed. Surely sufficient cause for the pain had been discovered without attacking the unoffending ovaries. We believe that the author would have very great difficulty in justifying his procedure in this case.

Other papers in this volume are: "The Intracranial Complications of Acute and Chronic Suppurative Otitis Media," by Dench, of New York; "Gastro-intestinal Radiography," by Pancoast, of Philadelphia; "Exotic Dysenteries," by Woolley, of Omaha; "Chronic Constitutional Headaches," by Theodore Diller, of Pittsburg.

W. B. T.

An Atlas of Dental Extractions. By C. EDWARD WILLIS, M.R.C.S., L.R.C.P., L.D.S., Assistant Dental Surgeon, King's College Hospital. Published by J. & A. Churchill, 7 Great Marlborough Street, London.

The book is written for medical students, and it is designed to assist them in emergency cases. As a general rule physicians and surgeons have not the opportunity for sufficient practice to make themselves expert in extracting teeth. Even a large number of dentists in the larger centres of population perform no operations in extraction, sending their patients to specialists in extraction. As a result of this many physicians and dentists are better fitted to extract strong, stout teeth that could readily be saved, than to remove broken-down teeth and roots that are beyond preservation.

However, emergencies occur, and one must do the best that offers. This work by Dr. Willis will be of value to medical students who find themselves in such a position that it is necessary to attempt a case of extraction. "A minimum number of dental appliances has been recommended and various means of improvising a dental chair have been shown."

A very interesting portion of the book is that relating to the causes of dental pain, where two different sources of pain are mentioned; one, that in which the pulp is primarily affected, and second, that in which the periosteum of the tooth is primarily affected. Successful treatment will depend upon a correct diagnosis.

The section on the treatment of alveolar abscess deserves serious attention. The abscess is to be incised in the mouth, but not on the outside of the mouth. If an abscess be incised on the cheek or neck, a permanent scar is left for life. If the abscess is threatening to point on the cheek, the author recommends the application of a piece of gauze with flexible collodion on the thin area of the skin, and thus to lessen the danger of an external opening.

For the physician who finds it necessary at times to perform extraction, the hints given in the book will be valuable. Facts are given in a concise form. The value of the work is enhanced by the number of cuts explanatory of the text.

R. J. R.

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Original Contributions.

CLINICAL REPORT OF CASES

BY H. B. ANDERSON, M.D., L.R.C.P. (LOND.), M.R.C.S. (ENG.),
Associate Professor of Clinical Medicine, University of Toronto.

A Case of Carcinoma of the Esophagus.—Mrs. S., widow, age 42, Canadian, a woman of excellent physique, weight 160; nervous temperament. Had always enjoyed very good health. Several cases of malignant tumor had occurred among uncles and aunts or distant relations.

In April, 1907, she first complained of some difficulty in swallowing. Later she had some soreness and pain in the throat for which she was treated by Dr. Goldsmith. These symptoms improved at times for a day or so, but on the whole became more persistent and aggravated during the summer. By the autumn she could only swallow solids with great difficulty, the attempt producing pain in the throat and spasm of the pharyngeal muscles. The taking of food produced so much discomfort and occupied so much time that often she would not take her meals. Before Christmas she was finally compelled to take only fluids. Bland and sweetened foods were partaken of more readily, and produced much less spasm. She had lost over 30 lbs. in weight by this time. She was troubled during her waking hours by an almost continuous desire to clear the throat, and during December and January daily expectorated several pints of frothy fluid.

On November 4th an attempt to pass an ordinary stomach tube failed, as it became arrested at the upper part of the pharynx. About ten days later another attempt also failed and a small speck

*Read before the Section of Medicine, Academy of Medicine, Toronto, March 10th, 1908.

of blood was noted on the tip of the tube after its withdrawal. Soon after this time the expectorated fluids contained almost continuously considerable traces of blood. No glandular enlargement could be made out at any time, and at no time during her illness was food regurgitated. On auscultation of the esophagus below the obstruction there was very noticeable delay in the deglutition murmurs. About the end of January she became hoarse, and shortly afterwards Dr. Goldsmith reported swelling and fixation of the right vocal cord. Shortly afterwards the thyroid gland became swollen and tender, and this structure and the larynx had a firm, brawny feeling and moved very slightly on swallowing. Towards the end of January swallowing became much easier, and a remarkable fact was that she gained seven pounds in weight in two weeks. Towards the end of February the hoarseness became more marked, and breathing was increasingly difficult, being accompanied by marked recession of the intercostal spaces and soft tissues at the lower part of the thorax. There was very slight recession of the episternal region, so much as to suggest that the main respiratory obstruction was not in the larynx.

Fixation of the left cord was now noted. The breathing had become so distressing and urgent that, in the absence of Dr. Goldsmith, I called in Dr. Wishart, who intubated the larynx, but without relief, the patient dying February 27th. Autopsy revealed a flat ulcerated area involving the mucous membrane and other coats of the esophagus and lower portion of the pharynx behind the thyroid and cricoid cartilages and base of the epiglottis, ulcerating through so as to involve by direct extension and edema the vocal cords and right half of the thyroid gland. There was no constriction of the esophagus found at autopsy and no dilatation above the tumor. The rapid ulceration had removed the mechanical obstruction to the tube. The tumor is of the ordinary squamous-celled type of carcinoma. No secondary deposits in the glands or other organs were found.

The marked pharyngeal spasm, profuse expectoration, periods of improvement, and a rapid gain in weight shortly before death were interesting features of the case. The absence of mechanical obstruction noted at autopsy, notwithstanding the great difficulty in swallowing, shows what an important part spasm may play in the symptomatology of the stricture associated with carcinoma in this situation.

A Case of Myocarditis with Chronic Fibrous and Acute Interstitial Changes.—F. P., aged 50 years, manufacturer, a large, fat man, died suddenly after a few days' illness, during which he suffered from acute pain referred to the upper abdominal region towards the right side, and accompanied by gastric flatulence. Some six years previous he had a severe illness, resembling typhoid

fever, but in which no Widal reaction developed, and which ran a long and atypical course. The autopsy revealed the following interesting features:

1. An acute hemorrhagic duodenitis, in which the mucosa for a distance of $3\frac{1}{2}$ inches from a point 2 inches beyond the pylorus was uniformly of a dark, reddish-black color throughout its whole circumference and greatly thickened. The stomach and pancreas showed no evidence of acute inflammation. This condition was evidently the cause of the acute abdominal pain of which he had complained. The condition to me was an entirely unusual one, having never before met with it, and I can find no reference to it in the literature.

2. Old fibrous scars were found at the apices of both lungs, and beneath the visceral pleura on both sides were numerous firm millet seed granulations. These, on microscopic examination, showed organized and vascularized fibrous tissue. The patient had suffered from no previous illness except that of six years ago, before mentioned. That illness was, therefore, evidently a miliary tuberculous infection of both lungs originating in the apical lesions, and from which the patient recovered. It therefore shows the possibility of cure in a widely disseminated miliary eruption in the lungs—a condition usually considered to invariably terminate fatally.

3. Marked fibrous myocarditis associated with sclerosed coronary arteries, the fibrous patches being plainly visible to gross examination in section of the left ventricle. On microscopic examination the muscle fibres in many areas show segmentation, hyaline degeneration with loss of striation and disappearance of nuclei.

Another remarkable feature of the microscopic examination of the heart muscle was the presence in many places of innumerable polymorphonuclear leucocytes in the interstitial tissue, and separating individual muscle fibres. The autopsy pointed to the cardiac condition as the immediate cause of death. The case is a striking example of the widespread and extreme degree of chronic and acute interstitial and parenchymatous changes which may occur in the myocardium unassociated with valvular lesions and not preceded by any of the acute diseases ordinarily accountable for such conditions. The heart was moderately enlarged, though gross examination showed nothing to indicate the extreme degree of acute interstitial inflammation above noted.

The kidneys showed well-marked parenchymatous degeneration and the liver fatty infiltration.

The patient had been a strenuous business man and a free liver.

THE SIXTEENTH INTERNATIONAL MEDICAL CONGRESS AT BUDAPEST

BY A. PRIMROSE, M.B., C.M. (EDIN.), M.R.C.S. (ENG.)

Surgeon to the Toronto General Hospital; Associate Professor of Clinical Surgery in the University of Toronto.

THE Congress was in convention from August 29th to September 4th, and was attended by upwards of 5,000 members. The various delegates converged upon Budapest from all quarters, by far the majority coming from the west, and not a few, including the writer, making the journey from Vienna to Budapest by boat down the Danube. The largest number of those who registered from any one country were Hungarians, the Germans, French, Austrians and Russians had about equal representation; next in order came the United States and Italy, whilst the British Empire had the smallest number of delegates.

The Organizing Committee held a reception of welcome on Saturday evening, August 28th, in the Fine Arts Building in the City Park. The heat was intense and the rooms were overerowed. These conditions seemed to stimulate the guests to heroic efforts to secure enjoyment at any cost, and the struggles which characterized the precipitous descent upon the refreshment tables and the rush later for the cloak rooms were subsequently described in terms which would lead one to believe that pandemonium reigned for a time, and such was not far from the truth.

Fortunately for the ultimate success of the Congress all other receptions and sessions passed off smoothly, and in addition the weather moderated so that a succession of cool days contributed greatly to the enjoyment of the week spent in that interesting city.

The inaugural session was convened on Sunday morning at 11 o'clock in the beautiful reception hall of the Municipal Buildings (Redoute). His Royal Imperial Highness Archduke Joseph greeted the Congress in the name of the King of Hungary, the official patron of the Congress. He spoke in French, as did also the other officials who welcomed us. This fact was commented upon freely by many in the assembly, and it appeared that the unsettled state of the political atmosphere in Hungary accounted for the deliberate way in which the French language was used in preference to German. It was only one of many incidents which lent color to the report that relations between Austria and Hungary were strained, many going so far as to insinuate that it was only the personal influence of the Emperor Francis Joseph which preserved the integrity of the present compact between Austria and Hungary and on the death of that aged monarch a disruption was sure to

take place. Among the officials who thus addressed us in French were Count Albert Apponyi, Minister of Education of the Hungarian Government. He was a tall, fine-looking man, and the speech in which he extended a warm welcome from the Hungarian Government was calculated to support his reputation as being one of the finest orators in Hungary. He was followed by the Lord Mayor of Budapest, Herr Calman de Fülepp, on behalf of the municipality. The General Secretary of the Congress, Professor E. Cross, then described the work of organization since its inception in 1906, and subsequently announced the names of the Honorary Presidents of the Congress. Speeches were delivered by delegates from the various countries, who occupied seats upon the platform; the proceedings terminated with the singing of the Hungarian National Hymn, by a choir of male voices. Among those on the platform were: Dr. A. McPhedran and Dr. G. Sterling Ryerson of Toronto University, the former being the official delegate representing Canada. Military and naval men were in uniforms of varied color and design, wearing decorations of numerous orders, others in national costume in furs looked as if they must have felt the summer heat oppressive, many others wore academic robes.

The scientific work of the Congress began on Monday morning, August 30th. The building used for the purpose was a disused polytechnic school, and this served the purpose remarkably well. A large staff of assistants were in waiting, and the preliminaries of formal registration, and the distribution of literature, including the daily journal, were carried out smoothly, and without confusion. A number of interpreters were in attendance, and special badges indicated those who could converse in English, German, French, Italian, etc., as the case might be.

It is impossible to give, in this short note, any account of the various scientific communications made to the Congress. There were twenty-one sections altogether, and several communications of general interest were made apart from the sections. One which attracted considerable attention was on the subject of cancer in man and animals, by Dr. E. F. Bashford, the Superintendent of the Imperial Cancer Research Laboratories. Then the discussion on appendicitis, before the combined sections of Surgery, Medicine and Gynecology, was of interest, and served to show that the profession is not yet an unit in the support of any one line of treatment in this common disease. Problems concerning immunity, the value of serum therapy, and many other subjects of absorbing interest, were under consideration in the different sections. Many papers were read in the sections of Anatomy, Physiology and Chemistry, which excited the interest of those working in the more purely scientific subjects of the medical curriculum. The official languages of the Congress were German, French, Italian and English, but

it was often exceedingly difficult to follow a paper in any language, as the reader, in most instances, had written much more than could be delivered in the fifteen minutes to which he was restricted, and the result was that he read so rapidly it was impossible to understand him. There were notable exceptions to this, however, as might be instanced in the case of that old Scotch veteran surgeon, Sir William Macewen, of Glasgow, whose clear, deliberate and convincing manner of speech riveted the attention of all who heard him, and won the unanimous applause of his audience.

Various entertainments were provided for each evening of the week. On Monday evening, the Lord Mayor of Budapest received the members of the Congress in the handsome town hall (Redoute). A good orchestra and excellent vocal music were greatly appreciated by those who could get near enough to the performers and far enough from the noise of the general conversation which was carried on continuously in most parts of the hall. The wife of a professor of medicine at the University of Budapest, sang some German songs which were greatly appreciated. The refreshment rooms were guarded by a large placard, which read, "The guests are requested to pass out of the buffet after fifteen minutes." In spite of this, most of the guests appeared to have succeeded in obtaining all they wished of champagne, sweets and more solid refreshment. On Tuesday evening, the Ladies Committee gave a reception in the City Park (Stadtwaldchen) to those members who were accompanied by their wives and daughters. The surroundings were extremely beautiful. Refreshment tables were spread in the open air, and the floral decorations were exquisite. On Wednesday evening, the Archduke Joseph received the members of the Congress in the Royal Palace in the name of His Imperial and Royal Apostolic Majesty. The palace was originally built by Maria Theresa in the middle of the eighteenth century; it was partly burned down in 1849, but was subsequently restored and extended in a most imposing style. It is beautifully situated on the hill on the Buda side of the Danube, the extensive palace gardens, with numerous terraces, passing steeply down to the river bank. The scene on entering the palace was most impressive. The long and broad marble staircase, with its massive columns, was carpeted down the centre with crimson cloth, and decorated with palms and ferns. On every second step, on either side, was stationed a soldier of the Royal Body Guard, in red and gold uniform and glistening helmet, with lance in hand, standing to attention. The brilliant lighting enhanced the beauty of this picturesque scene. The guests were conducted to the handsome reception room, where an attempt was made to arrange them in groups according to their nationality. The Archduke then

passed through, addressing each group in turn. Fifteen hundred members were summoned to the reception. Ladies were not invited, excepting those medical women who, in their professional capacity, were participating in the proceedings of the Congress. One of the medical journals referred to "a sort of triumph visible in the faces of the nine women" who thus appeared. On walking down the terraces from the Palace to the bridge, the scene was magnificent. It was a clear moonlit night, and one looked down upon the placid waters of the Danube and across to the city (Pest) spread out on the plain beyond. With a colleague from Toronto, the writer stood entranced with the beauty of the scene for many minutes. On the same evening as the royal reception, was a performance of Madach's "Tragedy of Man" at the National Theatre. On Thursday evening were receptions by the various presidents of the sections, and on Friday evening what was described as one of the most brilliant and, at the same time, successful, soirees was held by Count and Countess Apponyi, when some 400 members were received at the Park Club, in the City Park. It had been rumored that a German Society of Vienna had issued an appeal to the German members attending the Congress, asking them to refrain from attending any function at which Count Apponyi, the Hungarian Minister of Education, was officially present. The explanation was that recently the Hungarian Government, at the instigation of Count Apponyi, had excluded the teaching of German from the Hungarian elementary schools. This, it was stated, indicates the feeling of independence which is fostered by the Hungarians, and the policy of encouraging animosity towards foreign races living in Hungary. It would appear, however, that this appeal to the prejudices of political intrigue did not prevent the Germans from presenting themselves to enjoy the hospitality of the Count.

The incident of the German protest in connection with Count Apponyi's reception was only one of the several which pointed to the fact that the Hungarians are living in, and are no doubt responsible for the creation of, a political atmosphere which is apparently extremely irritating to neighboring states. Two very interesting pamphlets were issued to the individual members of the Congress, one from the Physicians of Roumania and one from Bohemia. The former is issued as a protest against the unjust laws which, it is claimed, have been enforced for the purpose of oppressing Roumanians living in Hungary. It is pointed out that, in Hungary, there are three and a half millions of Roumanians and six millions of Hungarians. It is claimed in the pamphlet that the liberty of the press is denied to the Roumanians, so that, "in less than ten years, their endeavors to publish what they think have cost the Roumanians of Hungary not less than fifty years' impris-

onment and two hundred thousand crowns' fine." Then, it is stated, all kinds of political meetings are prohibited. It is claimed, too, that the liberty of religious creed and the liberty of instruction in the mother tongue are curtailed. The tone of the pamphlet may best be indicated by quoting the following paragraph, which says:

"When such is the fate of the Roumanian people, which is a part of the Kingdom of Hungary; when its language and religion are abused, its monuments destroyed, and its liberties annihilated, are we not permitted to put the following question: With what superhuman power ought we to be endowed to master our heart and our grief, and be partakers in the festivities of that country, where millions of our people bewail the triumph of injustice?"

The Roumanian physicians held aloof from the Congress in a body, and similar action was taken by the Bohemians and Servians. The reasons were purely political, and in a circular addressed to the members of the Congress, dated from Prague, the Hungarian Government was characterized as violent, chauvinistic, and the enemy of civilization, whilst their ideals were described as criminal and retrograde. The action taken by these citizens of the neighboring states, and the fiery protestations against the Hungarian Government, threw an interesting sidelight upon the unsettled condition of politics in this part of Europe.

The closing session of the Congress took place on Saturday, September 4th, in the Municipal Town Hall. Congratulatory telegrams were read from the King of Hungary and the King of Portugal. The awards of various prizes were made, and it was announced that the next Congress would be convened in London in 1913. The invitation to England was conveyed by Dr. Pavy, who stated that, through the Secretary of State for Foreign Affairs, Earl Grey, he had been instructed to invite the Congress in the name of the British Government. Addresses were delivered by the President of the Congress, Professor Müller, and by the numerous delegates, and after a stirring speech by Count Apponyi, the President declared the Congress closed.

CONGENITAL MEMBRANE BETWEEN THE VOCAL CORDS —REPORT OF CASE

BY WM. A. MACDONALD, M.D., TORONTO.

CONGENITAL membrane between the vocal cords is not very common. P. Bruns, of Tübingen, some years ago collected twelve examples in the medical literature. Since then, Rosenberg published a case. This one is perhaps the fourteenth to be reported.

Levina McG., twelve years of age, came to me on August 24th, 1905, complaining of high, feeble, screeching voice. Trouble dated from infancy. Specialists who were consulted in San Francisco said she had a web in her throat. Patient's parents at that time refused operation.

Patient was pale and thin. Voice was a very high-pitched, feeble falsetto, almost aphonic. Examination of mouth showed hypertrophied tonsils, which almost touched in the middle line. Examination of larynx showed a membranous web uniting the vocal cords. The posterior edge of membrane was crescentic in outline, and terminated in the vocal processes of both cords. On inspiration, the web could be well seen, and it was observed that the centre of the membrane was the thinnest part, allowing the darkness of the deeper parts of the trachea to be seen through it. In color the membrane was a greyish yellow. No blood vessels could be seen in it.

August 28th, patient was anesthetized with bromide of ethyl, in the sitting posture, and the tonsils amputated.

September 7th. Larynx was prepared for operation with adrenalin, and 10 per cent. cocaine solution. The patient held her tongue with a piece of gauze, and during inspiration, under the guidance of the laryngeal mirror, the membrane was completely and cleanly removed by one bite of the double punch forceps designed for working in the anterior commissure of larynx by Krause, and modified by Halle.

There was practically no bleeding. There now appeared to be a second membrane under the site of the first, but this was seen to be the remains of the under surface of the original membrane, which was quite thick at the commissure.

The voice was lowered several octaves immediately after the operation, and had a good volume and tone, besides being much louder.

Next day the cords were clean and distinct, and the voice good.

After eight days the patient was seen again, and the anterior commissure was found to be filled up with new-formed epithelium.

Treatment with silver nitrate solution effected no improvement. The voice became higher pitched, and the mass of epithelium and granulation tissue increased in size. This mass was opaque, and thick, and blood vessels could be seen running toward its centre.

October 4th, this new mass was removed by an operation similar to the first.

From October 10th, Schroetter's tubes, armed with a dull blade, anteriorly designed to fit into the anterior commissure, were passed into the larynx and held there for two minutes each seance. This treatment was repeated daily for some days, and then two or three times a week. No cocaine was used after the first two treatments.

The filling in of the anterior commissure with epithelium gave lots of trouble. The blade on the Schroetter's tube was made larger, and once an O'Dwyer tube, adult size, was inserted for a couple of hours. The Schroetter's tube, armed with the dull blade, was frequently passed into the larynx, after which, during January and February, bismuth formic iodide was insufflated.

After March 5th, the patient was seen at intervals of a month or more. Until to-night, the patient has not been seen since March 6th, 1907, almost a year.

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WM. A. MACDONALD.

Toronto, February 25th, 1908.



Clinics



TORONTO GENERAL HOSPITAL CLINIC, SATURDAY JULY 24TH

Dr. Perry Goldsmith conducted the Clinic on the 24th of July. The attendance of medical men was good. (These clinics on Saturday at 10.30 a.m. are open to the profession.)

The first subject dealt with was mastoiditis. This Dr. Goldsmith defined to be an osteomyelitis of the mastoid portion of the temporal bone. He traced the channel of infection and displayed anatomical sections showing clearly the path of progress of inflammation. Infection, having travelled up the Eustachian tube by continuity of membrane, invades the middle ear and then passes through the additus and into the mastoid antrum.

The swelling of the mucous membrane of the additus often causes a closure of this canal and a damming back of the contents in the mastoid cavity, with severe symptoms. Middle ear infections might, however, be simple, with no exudation. There may be only a little earache and slight redness of the drumhead. The resisting powers of the patient may be high, or the virulence of the organism low; and the attack pass off in a few days. If more severe, exudation may take place, earache become rather severe, slight distension of the drum may be noted and considerable deafness ensue. The exudation may become absorbed and the patient recover. Or the exudation may become purulent and disintegration of serum may take place, causing a purulent otitis media. If the Eustachian tube remains patent the secretion may drain into the pharynx; on the other hand, the earache may be prolonged and severe, the drum bulge, and in children convulsions ensue.

Unless you perforate the drum, the drum will probably perforate itself, and the resulting irregular wound, situated badly for drainage, will not heal as kindly as a clean cut. The discharge may last a few days, healing take place and the patient make a good recovery. The disease may, however, go on and involve the mastoid (diagrammatically represented).

Symptoms of mastoiditis may be very deceptive. You may have no pain, no edema, no swelling, little or no change in temperature or pulse. Usually there is a history of middle ear infection. There is pain on pressure behind the ear, increasing on deep pressure, the pain usually being over the site of the antrum. The pain may

travel down and locate at the tip. This pain in the tip usually indicates invasion of a large cell near the tip.

In mastoiditis, very frequently during the first few days of an acute otitis media one finds mastoid pain over the lower half of the mastoid, but if the case goes well this rapidly passes off. One must not forget the possibility of a furuncle in the external ear. In such cases we have pain and swelling over the mastoid, but the pain is not increased on deep pressure, nor is it noticeable if care is taken not to move the auditory canal. The usual localized swelling in the canal puts one on his guard. There will be no swelling unless the infection has passed through the periostium. If one finds a boggy swelling, that means the disease has passed through. This is more fortunate than though the infection passed in towards the brain.

Nowadays operation is performed much earlier in the disease than formerly. It is important to recognize the seriousness of a discharging ear. There is only a thin plate of bone separating the suppurative process from the brain. A patient with a profuse discharge from the ear, greater than could be secreted by the tympanic mucous membrane, even without other signs, must have pus in his mastoid antrum and cells. There is no place else where a quantity of any marked amount could lodge. Generally speaking, in such cases the mastoid should be opened at once and the discharge drained at its source, in accordance with the well-known surgical rule. The danger to life is lessened, and the convalescence is rapid, but, equally important, the hearing is preserved.

A patient who has foul pus running through a perforation of the drumhead must have a very irritated and thickened condition of the lining of the tympanum. The ossicles are in places covered with only a layer of epithelial cells. Necrosis may, therefore, easily take place. The longer the discharge lasts the greater the resulting destruction of bone and thickening of the mucous membrane. After the discharge has ceased, the patient so often eventually suffers from progressive middle ear deafness. Therefore the sooner one can stop the discharge from the ear the less danger there is from chronic middle ear deafness.

One of the commonest causes of deafness is a lesion in the tympanum following suppuration. Is it not, therefore, good surgery to open the mastoid antrum in such cases, as by so doing we can stop the discharge in a few days, but, more important still, we *preserve the hearing*? I do not wish to advocate heroic methods only and think nothing of conservatism. The majority of cases have not general infection in the mastoid cells, the mastoid antrum is simply acting as a reservoir for the tympanum. Left alone or simply cleansed, they nearly all eventually get well, provided no further extension of the disease takes place in the mastoid, but there are

cases in which it is better surgery to drain the discharge from behind rather than through the drumhead.

The simple mastoid operation consists in merely opening the mastoid cortex and antrum. The radical consists, in addition, in breaking down the bridge of bone separating the mastoid cavity from the tympanum and cleansing out the contents of the tympanum, leaving, if possible, the stapes.

If the disease progresses without interference it may produce external abscess or abscess of the brain or infection of the lateral sinus.

The first patient shown illustrated an infection of the mastoid which had spread through the mastoid veins to the lateral sinus. The patient suffered from fever with chills. Two weeks prior he had earache. There was at that time a discharge for two days only. Symptoms quieted down, the middle ear and mastoid looked after themselves. The infection in the mastoid went on, however, but only in a minor degree. There followed chills and a temperature of 104, considerable pain in the head, no discharge from the ear, nothing in the lungs or kidneys, and no endocarditis. There was also an old strabismus. What other disease would produce these symptoms other than septic thrombosis of the lateral sinus? Operation advised. Mastoid opened, no pus. Incision was then carried back and lateral sinus exposed. It did not look unhealthy, and a partial stream was flowing through. Lateral sinus opened; little oozing of blood; then owing to the pressure of the blood behind a partial clot about 1½ inches long came out. Pure culture of micrococcus catarrhalis was obtained, and recovery was uneventful and rapid.

Another case exemplifies this same type of disease. The mastoid was opened and lateral sinus exposed. It did not look unhealthy and was, therefore, left alone. Patient put back to bed. Temperature fell to almost normal; next day temperature rose to 104, with decided chills and sweating. The patient was again anesthetized and this incision carried back at right angles to the primary mastoid incision and lateral sinus opened. It was found full of septic clot. Since this septic mass communicated directly with the venous circulation, and the patient was suffering from septicemia, it was decided to remove the external jugular vein, as this was the only way to prevent further poison reaching the circulation. The lateral sinus was followed back to the end of the clot near the Torcular Herophite and cleansed and the internal vein was resected from a point just above a point where it joins the subclavian to become the innominate, to a short distance above the entrance of the facial vein. Rapid recovery.

A third case was described in which the external jugular was removed (the patient had pyemia when first seen). The operation was apparently successful, and convalescence, though prolonged,

was satisfactory. The wound healed and the day the patient was to have left the hospital he died suddenly from embolism.

CHOLESTEATOMA.

This condition is found in chronic suppurating ears, and is caused by the proliferation of epidermis in the canal and spreading into the tympanum and mastoid. It is simply an extension of the skin into the tympanum and cells of the mastoid. The ordinary radical operation is indicated. As soon as you open the cortex you find a pearly membrane, and inside of that a putty-like mass. The patient shown had a double cholesteatoma. The ossicles were gone. It was unusual to find such in a child aged 11, and on both sides. Incidentally the patient, after four or five days in the General Hospital, developed an acute attack of appendicitis. His appendix was removed. He also had adenoids removed. Patient also suffered from a dislocated shoulder consequent on a nerve lesion of many years previous.

Choleastomata will nearly always recur in spite of everything. Some otologists advocate leaving a permanent opening in the mastoid. When one finds the ear full of choleastomous material he should avoid syringing with water, as the mass swells rapidly and produces great pain. A solution of salicylic acid, 2% alcohol, assists very materially in dissolving the epithelial mass. It is not always necessary, as Dundas Grant has shown, to remove the matrix of the cholesteatoma to secure good results.

A case of facial paralysis was then shown. Man, age 37, with a history of old middle-ear suppuration, pain behind the ear lasting for two weeks, and inability for some weeks to use one side of face as well as the other. There was gained a history of prior attacks of pain two years before associated with syringing the ear. A cholesteatomous mass was formed in the tympanum and a radical operation advised. This I performed the next day and found the mastoid antrum and cells leading to the tip filled with this putty-like mass. The additus was large and the middle ear filled with the same material. After cleansing the entire cavity it was swabbed with a solution of zinc chloride and the wound closed. The healing was rapid, facial paralysis was improved in a few days, and after some months became quite well.

A patient was then shown to illustrate blood clot healing of suppurative mastoiditis. The patient had an acute otitis media, which eventually invaded the mastoid. The simple mastoid operation was performed, and after thoroughly cleaning out all the diseased cells and swabbing the cavity with a paste of iodoform and 1-20 carbolic acid it was allowed to fill up with blood from the edge of the wound and completely closed. The stitches were removed in one week, the case healing by primary union. Dr. Goldsmith said this was the ideal method of mastoid dressing and the one he would

henceforth strive to secure. It necessitates a very complete operation and attention to many minor details. It will not be successful in all cases, but one is not any further out even if the clot becomes infected, as all he has to do is to cut the lower stitches, wash out the clot and pack with gauze. If one can operate on an acute mastoiditis and have no after treatment he saves himself and patient a great deal. The free use of tincture of iodine to the operative area assists greatly in leaving a sterile field and prevents stitch abscess.

Dr. Goldsmith then reported the following case: The patient shown had had a suppurating ear nineteen years and six months. This chronicity pointed to mastoid disease. Mastoid opened and found full of green pus, due to the bacillus pyocaneus. Radical operation performed. Prior to operation fissure of the external semi-circular canals was diagnosed on account of the vertigo the patient suffered from. Two fistulae were found. They were slightly enlarged and not probed, as the probe might break down nature's protection area and allow acute infection of the labyrinth to take place. A description was then given of Baranay's tests for disease of the labyrinth.

The question of tonsillar surgery was then taken up. The various methods of removing tonsils were explained—snare, cautery, punch, forceps (Morcellment), various forms of tonsillitones, scissors, etc. By a series of drawings he showed the steps of a complete enucleation of the tonsil. In connection with this he is a strong advocate of the complete operation as being simply good surgery. A diseased gland is in no other part of the body deliberately only half removed. Why so in the case of the tonsil? If the tonsil requires removal, why remove only half, hoping the remainder will shrink. This may be permissible in very young children, but is not good practice in adults.

The subject of nasal obstruction was then referred to. Dr. Goldsmith rapidly ran over the various causes for nasal obstruction, but referred more especially to that form of obstruction caused by a deviation of the nasal septum. By a series of large drawings he showed why septal operations have been until recent years so unsatisfactory, and how the sub-mucous resection (Freer and Killian) has made the present results so satisfactory. The various steps of the operation were very clearly illustrated and a series of cases shown.

The subject of nasal accessory sinus disease was then taken up. A goodly number of anatomical specimens were passed around, which showed the various anatomical relations each sinus bears to the others. Some of the simpler operations were then performed on wet specimens to illustrate his remarks concerning the operation measures usually adopted for the cure of the suppurative process. In connection with the sinus cases he spoke of the value

of bismuth paste, introduced by Dr. Joseph Beck, Chicago. Some new apparatus for using the paste was shown and its application illustrated on patients. Dr. Goldsmith spoke very highly of this form of treatment when properly and efficiently applied.

A series of X-ray plates was then shown. They were from Dr. Cumming's collection, and were an unusually excellent lot. By these the lecturer showed how great was the assistance a good skiagraph gave to an operator. The size of the sinus is thus known, the presence and situation of septa and offshoots. Not infrequently the opposite sinus passes beyond the middle line, and without a good plate one can easily open the healthy sinus.

**TORONTO GENERAL HOSPITAL POST-GRADUATE CLINIC,
SATURDAY OCTOBER 23RD**

The regular Saturday clinic, open to the profession, was held on the 23rd October, at the usual hour, 10.30 a.m., Dr. H. A. Bruce taking charge.

Case one showed an interesting condition—a growth in connection with the fibula. The patient, a girl aged 18, eleven months ago had her ankle stepped upon by a cow. Two weeks later a small tumor appeared on the outer side of it, but did not cause any pain or discomfort. It grew rapidly. Five months later she consulted a physician, who lanced the swelling. About a teaspoonful of dark blood was obtained. Patient thought it diminished in size for a time, but later it grew larger, and continued to up to the time of admission to the hospital. The tumor now extends from the external malleolus directly upwards for six inches. Its growth has been from below upward, extending from the tendo-achilles to the anterior margin of the tibia. The growth is irregularly nodular and shows some dilated veins on the surface. It presents a large, prominent swelling on the middle of the outer side, another nodule above, and still another in front. The summit of the tumor has an elastic, fluid feel, giving a sense of fluctuation. There is a distinct pulsation and bruit to be noted. The rest of the tumor is very hard. The ankle joint is free. The surface feels hot. There is no history of tuberculosis, and the von Pirquet reaction gave negative results.

Diagnosis.—A round or spindle-celled sarcoma of the fibula. The X-ray plate shows that it is peripheral—connected with the periosteum, which it has lifted up from the bone. When located centrally these tumors may be round or spindle-celled, and usually contain myeloid cells. Formerly a tumor originating in the medulla of bone and containing giant cells was classed as a sarcoma. Now it is called a myeloma, the term sarcomata being reserved for those tumors containing round or spindle cells with few giant cells. It is desirable to have this classification, because there is a great differ-

ence in the treatment. In the case of a myeloma it is quite sufficient to excise the portion of bone affected, including a half-inch above and a half-inch below the growth, whereas in the case of the sarcomata the removal of a limited portion of the bone would be quite insufficient. One finds that a growth from the deep layer of the periosteum is usually very malignant. Bland Sutton observed that the malignancy varies with the bone affected—that of the tibia and fibula being less than of the radius or humerus; less in the fibula than in the tibia. Sarcoma of the fibula is rare; sarcoma of the tibia is common. Sarcoma of the fibula is less malignant than that of any other bone. Sutton attempted a partial removal of the upper end of the fibula in an early case of sarcoma, instead of amputating. At the end of a year and a half there was local recurrence in the scar. Again he removed the mass without amputating. At the end of six months there was further recurrence in the neighborhood, necessitating amputation. The patient died six months later of internal metastases.

In the case presented, Dr. Bruce will amputate, by the Stephen Smith method, at the knee joint, as soon as consent is obtained. It would be unsafe to amputate lower down, as these sarcomatous cells are often found (when a longitudinal section is made) high up in the bone. It was to be noted in this case that the growth was extending upward instead of downward—not toward the joint. The cartilage over the end of the bone seems to resist the invasion of sarcoma cells. On the other hand, the cells readily traverse the blood vessels in the Haversian canals in the bone tissue. The joints, therefore, escape invasion, unless through the synovial membrane. Ninety per cent. of the cases give a history of injury.

The next patient presented was a man aged 59, with a growth on the right side of the neck. There was no history of tuberculosis or carcinoma. Patient drinks heavily at times and smokes ten pipes a day. Four months ago he twisted his neck, and two weeks later patient detected a hard, painless tumor, the size of a marble. It was subcutaneous, and easily movable under the skin. It has grown steadily ever since in a downward direction. It is now a large, hard mass, extending from the angle of the jaw to the clavicle; reaching from the middle line in front to within two inches of the mid-line behind. The skin over it is adherent, has a bluish discoloration, and presents little depressions, indicating that it is involved. The tumor moves freely across the fibres of the sterno-mastoid, but scarcely any in the direction the muscle fibres run. This muscle is involved. The patient complains of some pain in the chest below the site of the tumor. There are no evidences of pressure on the blood vessels or trachea. There is no enlargement of the glands of the axilla or groin. The larynx and pharynx are negative. The tongue and mouth are also free. What is this? Either a carcinoma or sarcoma. The glands of the neck are not involved, or one might think of lympho-sarcoma. Obviously, it is

not Hodgkin's disease. The case is likely one of primary carcinoma in the glands of the neck. It has gone too far and is inoperable. If one could get his finger in between the clavicle and the tumor the case might be considered operable. Dr. Bruce then described in detail the various steps to be taken in doing such an operation.

In speaking of these cases Dr. Bruce deprecated the former habit of surgeons in removing a portion of a malignant growth in order to make a diagnosis. The growths should be removed completely before sections are made. There is danger in the former practice that there may be a dissemination of the growth through the opening up of the lymph and blood channels.

The next patient, a woman, aged 46, had been operated on two weeks before for carcinoma involving nearly all the left side of the tongue and the corresponding glands of the neck. Upon entrance to the hospital her blood was so poor (only showing 45% hemoglobin) that operation was postponed until a short course of tonics and nutritious feeding could be given.

The steps in the operation were then described. A flap of mucous membrane was saved, and by tying the ranine artery the operation proved to be an almost bloodless one. The patient following the operation was placed in the Fowler's position, so that any oral discharge might run out of the side of the mouth, thus avoiding the occurrence of inspiration pneumonia. Tincture benzoin eo., in which the alcohol was replaced by iodoform and ether, was applied and the mouth frequently washed out with antiseptics. The result was very fine.

A case of tubercular disease of the shoulder joint was presented. The patient was a man aged 43, who twenty-one years ago sprained his shoulder. A year later he suffered from rheumatic fever, which affected the shoulder particularly. In his work he used a hammer a great deal. At times the shoulder became red and swollen. Six months ago an abscess formed in front of the shoulder joint, since which there has been a discharging sinus. Three months later an abscess formed over the right scapula. There is much thickening of the head of the bone. The joint is almost fixed. Moreau's test and von Pirquet's were both positive. Dr. Bruce described how these tests were made. He proposes to excise the head of the humerus.

The next patient shown was a pedlar, aged 61, who was admitted to the hospital three months ago, giving a history of epigastric pain for over two years. There was also a mass in the epigastrium. About nine months ago patient began to complain of shortness of breath. The previous year he had received treatment in the hospital for pernicious anemia. At the time of his second admission his hemoglobin was 35%; red blood cells, 2,600,000; whites, 8,200. Stomach contents showed albumoses, starch granules, and the Opler-Boas bacillus, but no saricinae. An exploratory incision was done in August. A large carcinomatous mass, the size of a

man's fist, was found involving the pyloric end of the stomach, mostly confined to the posterior aspect. Secondary nodules were present on the anterior surface of the liver. It was quite clear there was no use in attempting a radical operation, seeing there was no pyloric obstruction. The condition of the blood was also unfavorable for the performance of a gastro-enterostomy. Gastro-enterostomy for carcinoma of the stomach is attended with a higher rate of mortality than for a simple condition, such as for ulcer. The abdominal incision is also slow in healing in such cases. The wound in the case shown was examined, and healing was seen to have barely taken place, although two months since the operation. Another case of slow healing was cited.

Dr. Bruce holds that there is great room for improvement in the diagnosis of internal carcinoma. By the time these cases reach the surgeon, it is often too late to operate, unless to remove the pyloric obstruction.

Crile, of Cleveland, has been using hemolysis as a method of determining the presence of carcinoma. He found that the blood serum of the cancer patient would cause hemolysis of the corpuscles of the blood of a healthy patient in 80 per cent. of some 200 cases examined. Unfortunately, the reverse action happens, that the blood serum of healthy persons produces hemolysis of the corpuscles of the blood of cancer patients. Further, in certain other diseases, tuberculosis, for instance, hemolysis occurs. If the test would help one to differentiate in those diseases which were easily confounded with carcinoma, then the test would be of value even though a similar test was found in other persons in whom there had been no difficulty in making a diagnosis. In patients with advanced cancerous disease the reaction does not occur.

Dr. Bruce also showed a very interesting case of osteo-arthritis. One X-ray showed clearly lipping along the upper margin of the articular surface of the patella. There is also erosion of the lower end of the femur—the characteristic appearance present in osteo-arthritis. Grooves had formed in the joint, as though the cartilage had been worn away by some hard substance—the condition known as eburnation. This condition is produced sometimes in football players as the result of injury. Dr. Bruce reported another such a case, the lesion being in the knee. The treatment consisted in prolonged rest (and extension) secured by a Thomas splint, with blistering around the joint. Four blisters about one inch square were placed an equal distance apart. In a week a new set of four in fresh places opposite the joint were applied. And so on for six months. The joint is kept warm by surrounding it with absorbent cotton. In the intervals between the blistering alternate applications of hot and cold water seemed to have a beneficial effect. After a year's treatment the patient made a perfect recovery, with no return after a lapse of eight years. The patient was given iodide of potash in small doses.

Laryngology, Rhinology

IN CHARGE OF
PERRY G. GOLDSMITH, M.D.
TORONTO.

and Otology

THE COMMON COLD

IN a special number devoted to common ailments *The Practitioner* has, among many excellent papers, one on the above topic by Harry Campbell. The words "Common Cold" are used to mean an acute catarrh tending to run a definite course, limited to days or weeks, of some part of the mucous lining of the upper respiratory tract and contiguous regions (frontal sinuses, maxillary sinuses, nasal ducts, and so forth).

The common cause of colds is a specific bacterial infection, but Campbell thinks there may be a purely nervous cause, from vasomotor and tropic disturbances.

Among the organisms found are Friedlander's bacillus, bacillus septicus, bacillus of influenza, and the micrococcus catarrhalis. Susceptibility to these organisms varies greatly in different individuals. The individual methods of life in which we are over-enveloped in clothes and live continually too much indoors cause in a large measure our susceptibility as compared with primitive man. The symptoms vary greatly as one would expect, with different kinds of organisms affecting different types of people, and as we have all noticed varies in epidemics. Different portions of the mucous membrane may be affected at different times, or only one portion of the entire tract may be involved.

Prophylaxis.—Campbell speaks of the very great importance of the prophylactic treatment of this common disorder. Mouth-breathers, and those suffering from adenoids and enlarged tonsils or any affection of the nose or throat are more liable to take cold than others. Such people, if present, should therefore be promptly treated. Stuffy and overheated rooms should be avoided; the bedroom windows should be kept open at night, and, if tolerated, cold baths taken every morning. The wearing of too heavy clothing is pernicious, and we should not be afraid to allow the upper part of the chest and neck to be very lightly clad.

The question of feeding is one which should not be overlooked, both over-eating and eating wrong kinds of food may engender the catarrhal diathesis, and as over-fed people take cold it is more liable

to become chronic; it is important that the over-fed chronic bronchitic patient should regulate his diet, as it is of great benefit. This is also of great importance in children, as the important point Campbell says is to cut down the supply of starch and sugar rather than the animal food, and he believes it is largely the cause that the children of the poor are deluged with starch that they suffer from chronic indigestion and catarrh. As there may be absorptions of poison from the digestive tract acting as a factor in the causation of catarrh, it is very important to avoid constipation. During the occurrence of epidemics it is well for susceptible patients to avoid theatres and other public buildings, and so forth, where the imperfect ventilation makes these rooms "hot-beds" of infection. After exposure to infection it is a good plan to douché the nose and gargle the throat with a mild antiseptic such as boracic acid.

Two special precautions for the avoidance of infection are: First, always to breathe through the nose, and never allow the hands to handle food or to be put in the mouth without having first been washed.

Curative Measures.—Campbell does not agree to the treatment of warm baths, mustard, purging, Dover's powder, aspirin and salicylates. Treatment of this sort, he says, relieves some symptoms and satisfies the patient and his friends, but does little or nothing to attack the *fons et origo* of the trouble. Quinine in ample doses stands foremost among the drugs, but it should be used from a prophylactic standpoint.

Chronic rhinitis, laryngitis, bronchitis, and so forth are found to be successfully treated by the use of vaccines alone. In cases of bacillus septus the only vaccine likely to have any effect is a vaccine made from the patient's own person. The following is the method which the author advises in using vaccine therapy:

For receiving the secretion from the inflamed mucous membrane of the nose, throat, or air tubes, small wide-necked bottles fitted with glass stoppers are required. These should be sterilized by boiling. When it is desired to collect the nasal secretion, the external nasal orifices, which always contain an abundance of micro-organisms, should be washed with warm soap and water, and dried with a clean towel. One nostril is then closed and the discharge is expelled direct into the bottle.

The best time to collect a sample of the discharge from the naso-pharynx, the throat, or the tubes, is the first thing in the morning, when it is least likely to be mixed with food particles, and when, moreover, a "uniform smear" (*i.e.*, one in which the contained micro-organisms are present in their true proportion) is most likely to be secured. The secretion should be hawked up or coughed up into the bottle, but prior to this the teeth should be thoroughly brushed, the mouth rinsed, and the throat gargled with

boiled or preferably distilled water, after which some of the pure water should be swallowed.

Here a word of caution must be uttered. Unfortunately the vast majority of the people of this country (England) suffer from pyorrhea alveolaris, a disease which (as I have more than once insisted) is mainly due to the inadequate use of the teeth, resulting from our present system of pap-feeding. Now the pus which pours out of the diseased sockets in this affection contains, in addition to other micro-organisms, micrococci catarrhales, pneumococci, streptococci, and staphylococci, and constitutes a constant source of infection of the throat and neighboring parts. When we consider the propinquity of the posterior molar teeth to the Eustachian tubes, the danger of these latter being infected from these teeth becomes obvious.

It is, therefore, of the utmost importance to remove the source of infection before attempting to treat any chronic infective inflammation of the mucous membrane of the pharynx and neighboring parts. Happily pyorrhea alveolaris can in most cases be cured by modern dental methods.

Having secured the specimen, it is forwarded to an expert, and the vaccine can be prepared ready for use within forty-eight hours of its receipt.

The best time for the injection is the evening, and the best spot the flank slightly above and internal to the anterior superior spine. If the reaction is pronounced it may be necessary to keep the patient in bed for twenty-four hours.

An ordinary hypodermic syringe may be employed. It should be boiled in water before use (some prefer to boil the needle in alcohol) and the skin of the spot selected for injection should be well rubbed with a piece of cotton wool soaked in a mixture of alcohol and ether, or in a 2% solution of lysol. It is always advisable to begin with a small dose (*e.g.*, 120,000,000 organisms), and to regulate subsequent doses according to the resulting reaction, the subsequent bacterial findings, and the effect upon the local secretion. As a rule the second injection should be about ten days after the first. We do not seek to produce any reaction when the injection is administered during an acute cold, but in the case of chronic inflammatory conditions, or for prophylactic purposes, we endeavor to produce a definite but not too pronounced reaction. Such a reaction displays itself as a tender red swelling at the seat of the injection (which appears in from four to eight hours, and begins to subside in about eighteen to twenty-four hours), and in the form of constitutional symptoms, such as fever and headache, which set in a few hours after the injection and subside during the second twelve hours.

(The difficulty in using vaccine therapy in private practice makes

it necessary for us to treat our patients in some other way, and I am not sure but that another way may be equally as beneficial. A patient suffering all the discomforts of acute coryza, with secondary laryngeal and bronchial disturbances, consults his physician for relief, and as a rule he wants it at once. If seen early, quinine Dover's powders often act immediately; in others, quinine, acetanetid and ammonol does very well. The reviewer thinks it is of very great value to take a half-hour or so gymnasium exercise, and thinks it helps more than all the drugs you can use. Inhalations of menthol, Tinc. eucalyptus and Friar's balsam are agreeable, and seem to have a special action in influenzal rhinitis.

If the nose is closed, great relief will be given to the patient by the use of Formawn and menthol snuff (B. & W.), and the regulation of the diet is, as Campbell says, very important. The use of oil sprays are also agreeable to the patient, and not infrequently the patient receives relief by going to the seashore or to a higher altitude, say to the woods, if even only for a few days. When menthol is used in oil it should be only 2 or 3 grs. to the ounce; stronger is very irritating.

The colds found in children, recurring several times during the winter, or persisting as the one cold for any length of time, are frequently cured by the removal of adenoids and tonsils and the regulation of the diet and breathing afterwards. Patients who are subject to hyper-secretion of the nasal mucous membrane should make a practice of cleansing the nose not so much by syringes as by the frequent use of a pocket handkerchief. Regulation of habits, proper exercise and diet will go a long way towards relieving the various forms of rhinitis not dependent on disease of the adjoining cavities.)

P. G. G.

Selected Articles.

INSURANCE—MOTOR AND OTHER

At a meeting of the Medical Insurance Committee at the offices of the British Medical Association, 429 Strand, a resolution of condolence with Mrs. Radcliffe Crocker was adopted, expressing the committee's sense of the loss it had sustained by the death of her husband, who had acted as chairman of the committee since its formation, and had by his keen interest and business aptitude very greatly contributed to enabling it to work up so large a business. Dr. G. E. Haslip was elected chairman in the place of Dr. Radcliffe Crocker. The agent and secretary was able to report that there had been a considerable increase in the volume of business and in the premium income during the year, and that this was particularly marked in the life and personal accident departments—a result which was regarded as particularly satisfactory, since it seemed to indicate that the efforts of the committee *to bring home to those engaged in the practice of medicine the wisdom and prudence of insuring against personal accident* were beginning to have effect. The committee has had under consideration for some time the question of motor-car insurance. It is well known that the sale value of a car purchased new deteriorates very rapidly. A medical man may, for instance, purchase a new car for £700 and insure it for that amount, paying a premium on that sum annually; if, however, his car become a total loss three or four years later, he would, in ordinary circumstances, receive not the replacement value, £700, but the sum at which the car is valued at the time it came to grief. A car bought new for £700 would probably in its third year not be valued at one-half that amount, although its usefulness to the owner would not have greatly diminished. The policy which the Medical Insurance Committee recommends meets this objection, since the payments paid are upon the present full value of the car and accessories, and the insurer can alter the valuation at the expiration of the year to meet the decreased market value of his car. The premium rates are governed by the present value of the car and accessories, and by its horse-power; for instance, on a 10-h.p. car and accessories valued at £300, the annual premium is £11 10s, and for a 14 h.p. valued at £400, the premium is £14, and so on. The rates quoted are those of the "Red-Cross" doctors' policy, and the premiums cover (1) all damage to car the direct result

of accidental collision, excluding wilful damage, wear and tear, and mechanical breakdown; (2) all claims for which the assured may be liable for injury to persons, excluding passengers and animals, or damage to vehicles or property caused by the car; law costs being incurred by consent; (3) all damage by fire, lightning, explosion, or self-ignition; (4) loss of car by theft, including accessories, fittings, or parts, if stolen with the car, and damage to car through an attempt at theft; (5) damage to car while being towed or conveyed by road, rail, or inland waterway, anywhere in the United Kingdom; (6) damage to lamps and accessories due to accidental collision, and damage to tyres from the same cause when the car also is damaged. Further, the compensation of £1 a day is paid during the time the car is being repaired owing to an accident, to cover the cost of hiring a conveyance; this compensation is payable from the second day after the receipt, from the repairers of the assured, of an estimate for the repairs, until the repairs are actually completed. The amount in any case may not exceed 75 per cent. of the agreed cost of repairs. There is no restriction as to driver, all damage to the car being covered while any licensed person is driving, whether with or without the knowledge of the assured.* Under this policy the insured value is agreed as the replacement value; thus, in the event of total destruction or loss the full amount insured is paid in cash. If no claim is made in a year, an amount equal to 25 per cent. of the full premium paid will be returned in cash. If the owner only drives there is a reduction of 5 per cent., and if the same owner owns two cars, only one of which is used at a time, there is a reduction of 20 per cent.; if both cars are liable to be in use at one time, the reduction is 10 per cent. The owner's liability with regard to his paid driver, accidents to the owner or passengers in the car, and theft of accessories can also be provided against under these policies. The Medical Insurance Committee is able to allow 10 per cent. off the total premium paid by the insurer. Special policies are also issued to owners of certain makes of cars, authorizing them to have repairs up to any amount commenced immediately, without consent, at the authorized agents of the particular company, but for a medical man, the "doctors' policy" would seem to be the best. Red-Cross policies are also issued without the provision above mentioned for compensation while the car is being repaired, and can be made to cover mechanical breakdowns under certain conditions, the premiums being adjusted accordingly.—Abstract from the *British Medical Journal*, London.

* (This is a policy almost exactly similar to that issued by the General Accident Assurance Co. of Canada and the Canadian Casualty Co., Head Office Continental Life Building, Toronto, and which Companies carry the large majority of the policies issued on physicians' cars in Canada.)

ABSTRACTS

Treatment of Dysmenorrhea and Uterine Hemorrhages.—F. Girardi, of Cervinora, has used styptol in menorrhagia as well as in metrorrhagia, and reports that its action was to be relied upon. In every instance the bleeding was rapidly diminished, even in those cases in which hamamelis and hydrastis had been of no effect. The analgesic action of styptol was especially noticeable. The preparation also proved beneficial in cases that had been operated upon. For example, one year after a curettage, styptol promptly diminished both pain and hemorrhage when these symptoms reappeared. Furthermore, Girardi recommends styptol to the operating gynecologist, because, when given after adnexa operations, ovariectomies, etc., it tends to prevent complications and has a sedative action on the pelvic organs. The author found styptol especially valuable in dysmenorrhea, as it not only diminishes the bleeding but relieves the pain that is wont to appear several days before menstruation. Besides its hemostatic action, styptol also acts as a sedative. Its sedative effect is probably due to a diminution of the irritability of the peripheral nerves, especially those of the genito-urinary system.—*Riv. internaz. di Clinica e Terapia*, 1908, No. 15.

Diuretin in Stenocardia.—Professor von Noorden, of Vienna, remarks on the excellent action of diuretin in stenocardia. Diuretin is to be taken three times a day in doses of 0.5 to 0.6 Gm.; larger doses are unnecessary, and are, perhaps, even less effective. Diuretin and its allied combinations possess a definite vasodilator influence on certain vascular areas. This can be easily demonstrated in the case of the kidney. The small vessels of the heart are probably affected in the same way. This results in a diminished resistance and improved circulation, which account for the good effect in stenocardia. Improvement sets in after two or three days, and the difference is so marked that this must be ascribed to the action of diuretin in stenocardia—one of the most striking results which therapeutics can achieve. Diuretin should be persevered with for at least two or three weeks, but if a longer administration seems necessary there is nothing to stand in the way. The small amounts are well borne by the stomach. Von Noorden has never witnessed any bad effects from a long-continued administration of diuretin.—*Med. Klinik*, 1908, No 1.

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No. 6.

Editorials.

ISOLATION OF CONSUMPTION IN PRISONS

VIEWED in the light of the modern therapy of consumption—abundant fresh air, nutritious food—a prison is an excellent nurturing ground for consumption. The omnipresent bacillus tuberculosis blends with the dust of the sunless corridors and awful cells, where men and women in physical wretchedness and sadness of spirit expiate their guilt. The influence of environ-

ment was never better illustrated than in the now well known experiment of Trudeau, who found that rabbits inoculated with tuberculosis, if confined in a dark, damp place, without sunlight and fresh air, rapidly succumbed, while others treated in the same way, but allowed to run wild either recovered or showed slight lesions. Prisoners are in the position of Trudeau's rats in the cellar, and under conditions most favorable to foster the development of the bacilli, which may have found lodgment in their bodies. Then, some prisoners at the time of incarceration are already victims of tuberculosis, and, if made to dwell with the others, are capable of transmitting the disease to them.

We learn with satisfaction that in a new Central Prison, shortly to be erected by the Provincial Government of Ontario, provision will be made for the separation of consumptive prisoners from their fellows. In a wing to be added to this building, consumptives will be secluded—having their own cells, dining rooms and workshops. Probably, the most notable departure in this new prison will be the establishment of open-air workshops. Consumptive prisoners, when isolated from their fellows, cannot infect them; made to live and work in the open air, they may recover their own health. Might we ask, that, as much as circumstances permit of its application, the same boon be extended to the inmates of asylums for the insane.

J. J. C.

CAPITAL PUNISHMENT

As long as the death penalty is inflicted for certain offences, particularly murder, great care should be exercised by the court authorities in selecting jurymen to try such cases. In ordinary court procedure, when a jurymen is called to be empanelled, he has the right to object to being sworn in, providing he states to the court that he entertains certain ideas against capital punishment, and, therefore, cannot conscientiously sign a verdict committing the prisoner to the gallows. In such a case, he is at once excused. Even, if aware of this provision of the law, it is doubtful that a jurymen would inform the court of his objections to capital punishment; such spontaneous action on his part would evince unusual boldness and decision of character. The spirit

and the letter of the present law would be more completely observed if each jurymen called to try a murder case, would, in answer to a properly worded question, inform the court, by a simple "yes" or "no," of his belief on the question of capital punishment for certain crimes.

It is stated, that one clue to the success of the insanity plea in trials for murder is, that some jurymen are growing more and more reluctant to send a prisoner to the gallows. As an extension of this view, the claim is made that, the more intelligent jurymen are, the more they feel that a human life is something they must not destroy. In our view men of this intelligent class should be obliged to state their objections to capital punishment to the court before being sworn in. If they do act as jurymen, they should render a verdict "according to evidence," dismissing from their minds anything else bearing on the case, leaving to others the responsibility for a method of punishing crimes, which is objectionable to their own sense of right. This would be an honest course of action. To recognize a murderer's guilt as proved by the evidence and to flinch from a verdict of guilty, because that would call for the death penalty may be creditable to a jurymen's heart, but does not redound to his intelligence.

And yet, as men go, a tender heart is not to be despised, even though it should sometimes masquerade in the garb of intelligence. To drown a trapped rat, which fastens its black beady eyes on yours, before you plunge trap and rat into a tub full of water requires some firmness, and a good many men, intelligent or ignorant, would shrink from so deliberate an act.

To sit in a jury-box watching a prisoner accused of murder is not a pleasant task, and, as the trial wears on, a disagreeable taste rises in the watcher's mouth. Much of the incriminating evidence may throw a thoughtful jurymen back on his own past—a past almost forgotten, or which he would fain forget. How often has crime, or the punishment of crime, been prevented by chance, Providence, or what you will? Are we all sane at all times, even when age cools the blood, or passion fires the heart less hotly?

There is another side to the picture, at which the tender-hearted jurymen should not fear to look. A Mohammedan Malay, when the bad mood comes on him, fills up with bhang,

draws his kris, and rushing into the bazaars strikes men and women till he himself is slain. A Christian Canadian fills up with hard cider and, because his wife crosses his ugly temper, grasps a poker and beats her to death. But he does not die—not he. He finds an advocate who, with successful rhetoric, tells an intelligent jury that hard cider minimizes the guilt of slaughtering a human being. The intelligent jury brings in a verdict of manslaughter, and the merciful court sentences the prisoner to the penitentiary instead of the gallows.

J. J. C.

THE TWO HUNDRED AND FIFTIETH ANNIVERSARY OF THE HOTEL DIEU, AT MONTREAL

THE two hundred and fiftieth anniversary of a Canadian hospital is a little startling—Canada is so very young. Yet not all of it—there are, as you know, the *antiquiores* and the *juniores*. Our French-Canadian brethren of the lancet and the lady hospitallers of the Hotel Dieu, Montreal, deserve to be felicitated on the notable history they have to live up to—an unbroken record of two hundred and fifty years of service to humanity, carried on from humble colonial days in 1659 down to the glitter of the electric twentieth century.

The bronze statue erected in memory of Jeanne Mance, who founded the Hotel Dieu, and to three religious hospitallers, Reverend Mothers Maillet, de Bresolles and Massé, comes from the master hand of the Canadian sculptor, Phillip Hebert. The group represents Jeanne Mance in a slightly stooping attitude, bending forward to raise up a sick man who is sinking to the earth under a load of weakness. It is said by those competent to judge that the likeness to the humble maid of La Fleche, Jeanne Mance, is striking, while the eloquent story in bronze symbolises, to a wonderful degree, the ideal of her life. Monsignor Bruchesi, Archbishop of Montreal, deserves credit for having taken the initiative in the erection of this noble monument.

As was proper, the rejoicings which took place at Montreal, last September, to commemorate this memorable anniversary of the Hotel Dieu were of a religious and a civil character. Monsignor Sbarette, the papal legate, the Archbishops of Montreal,

Kingston, and St. Boniface, the Bishops of Valleyfield and Joliette, and a numerous body of the Roman Catholic clergy were present at the religious services. Sermons appropriate to the occasion were preached by Abbés Lecocq, Gauthier and Father Lalonde, S.J. Sir A. Pelletier, the Lieutenant-Governor of Quebec, and the prominent civil and religious authorities of Montreal graced the ceremony of the unveiling of the statue. An address in English was given by Hon. Dr. Guerin, Chairman of the Medical Board of the Hotel Dieu, and an address in French by Dr. Hervieux, one of the hospital physicians.

Both speakers eloquently expressed the admiration felt by everyone, but in a more especial degree by the attending physicians of the Hotel Dieu hospital, for the fruitful and beneficent work of Jeanne Mance and her noble companions, the lady hospitallers of the Hotel Dieu.

J. J. C.

EXPERT MEDICAL TESTIMONY

ALMOST in a night our Canadian towns have assumed the proportions of great cities, and these cities, with their teeming life, made up of the flotsam and jetsam of other nations, have, of course, made death by accident and foul play an almost daily occurrence. Plenty of work for a coroner of course; but is the work connected with that officer's court being as carefully done and are those employed, especially in making an autopsy or in giving medical evidence, always as capable as they should be—is a question that has been thoughtfully and concisely discussed by the lay press recently. We take pleasure in quoting in full the following editorial from one of our daily papers:

“EXPERT MEDICAL TESTIMONY.

“So many cases are on record in which medical experts have been ranged up in direct opposition to each other in criminal trials that it seems high time for both the State and the medical profession to consider whether either gets anything but injury from these proceedings.

“In most cases it may be conceded freely that two medical men may in all honesty disagree as to the cause of a man's death, or as to the effect that an injury may have had on him. In a case like

that it is not necessary to suspect either of them of a desire to mislead justice, but it is certain that justice receives no enlightenment when the opinions of one entirely offset those of the other. In speaking of this subject a few days ago we suggested that it might be well to exclude, in criminal cases, all medical testimony except that of a coroner, who could be called at the request of judge or jury to give his opinions, which would be at once those of an official employed in the service of justice and those of one with experience as a medical man. It is true that a coroner is not necessarily the highest of medical authorities, but he would, at least, bring into court a certain amount of knowledge, a certain sense of responsibility, an acquired acquaintance with affairs, and an ease in the witness box in saying all he meant and no more. We do not doubt that expert lawyers frequently make it appear that medical experts think what they do not think at all, and give them no opportunity of saying the simple and direct thing they had intended saying.

"In many cases the way is opened to all kinds of doubts in the minds of medical experts, by the fact that autopsies are conducted by general practitioners, who, while they may have the highest skill in treating patients, are very seldom called upon to do work of this kind. At the time when they perform these operations they may not be aware of the disputes that may arise later on. They may not make, or be equipped to make, those bacteriological and other scientific tests that, it will be argued later on, should have been made.

"So convinced are we that something should be done to improve the present state of affairs, that we think it would not be going too far to suggest that three or four men of the greatest skill and experience should be appointed by the Crown to conduct all autopsies throughout Ontario. It would be done scientifically, thoroughly; the findings would be beyond challenge; these men would gain experience in the witness box and would not be flustered by cross-examination. While the results of such a plan should be satisfactory, the extra expense of it need not be great."

The idea suggested of the coroner alone giving expert medical testimony in criminal cases is in reality a correct one. He has all the evidence to sift and consider, copious notes from which to refresh his memory, and, if worthy of his position, his brains are packed in ice, so that he is not confused nor liable to "shilly shally" and deny and affirm in answering the same question when in the

witness stand. The other suggestion that the Crown should appoint especially qualified men to perform autopsies throughout Ontario is also good, but it would be difficult to arrange, as the work must be done promptly, and we fear the suggestion, if carried out, would only result in a multiplicity of appointees, "a pull" with the Government being too frequently the highest credentials considered, and then, like coroners, "autopists" would multiply exceedingly and of their making there would be no end.

Perhaps ere Toronto is a little older, the Academy of Medicine may be a name to conjure with, and positions relating to things medical, even under the Crown's jurisdiction, may be referred for special examination to an approved Committee of Fellows of that body. This procedure would not lower the dignity of the applicant nor that of the position, but would instill added confidence in the public mind in the man chosen, and perchance lessen the number of applicants for appointment.

W. A. Y.

THE ONTARIO MEDICAL COUNCIL

WHEN the letter signed "Irate Practitioner," appearing on page 385 of this issue, came to hand we looked up the Council Announcement for 1909-1910 and on page 269 we find the following:

ENQUIRIES.

Dr. Hart.—If this is a proper time to ask a question in regard to a matter that comes under the heading of Rules and Regulations, our Rules and Regulations require that our students shall have in actual instruction in their schools four terms of eight months each. Now I have not an Announcement of the Western University here. I have seen one of Queen's and one of Toronto University. I think all the Colleges begin their work on the 1st of October.

Dr. Moorhouse.—The Western University on the 16th September.

Dr. Hart.—The last Announcement of the University of Toronto gives the convocation exercises as being on the 12th of June, so that there would seem to be not much fault to be found as to the length of time elapsing between the opening of the College and the convocation exercises. I noticed in the papers that the convocation exercises for the Western University and Queen's occur on

the 24th and 25th April, I think, leaving a period I should say a month and a half short of eight months in each of those cases.

In the Queen's University Announcement the statement is made that the lectures begin on the 29th September and close on the 1st April. Evidently it requires no argument or computation to show that the time actually given to medical study must be less than six months. The enquiry I wish to make is this, Have we any committee or organization or person who is deputed to see that our requirements are carried out in the various teaching bodies, or are we to assume without any such investigation that this work is carried on as the requirements of the Council demand?

The President.—“The Registrar, I believe, has to look over all the certificates, and he knows in every instance, and if they are not complied with the applicant is not allowed to take the examination. If the Registrar accepts the certificates, they must be correct.”

Dr. Hart.—“It would be very difficult for me to understand how they could be correct, dating from the 1st October, or, in the case of the Western University, from the middle of September to the 1st April, or how it would be possible to squeeze eight months in that time, when two weeks or more are taken out in the winter for the Christmas holidays. It is just a question of what should be done to rectify that discrepancy.”

It does seem rather odd that the Council should make a regulation calling for sessions of eight months each, and then honor the certificates of colleges that, by their own announcements, don't pretend to fulfil the requirement. It looks as if “Irate Practitioner” is right, and that it is time for a change.

W. A. Y.

'VARSITY, 'VARSITY, 'RAH, 'RAH, 'RAH!

WE do not want to assume the role of busybody peeping in where we have no real business, but we are sorry for our 'Varsity boys who made such fools of themselves recently, and we are sorry for their parents, who have to pay the piper. Order and gentlemanly conduct are expected from the young men, who are surely at least “the beginnings” of gentlemen, and who later on are to sit in the seats of the mighty in this Canada of ours. It is not as individuals they appear before us; they are not old enough yet to vote nor to

have a real place socially nor scholastically, but they are praised or censured as a unit—'Varsity boys. As the sons of gentlemen they have been taught to apologize, and an apology means, if anything at all, sorrow for the misdemeanor committed and a promise of absolutely correct conduct in the future. On behalf of the medical students may we plead for a chance to "make good" just this once. Also to be fair to the boys, and because, being a physician we have acquired the habit of giving advice, we would recommend old gentlemen escorting ladies apt to faint to keep away from promenading on other people's property. The 'Varsity campus isn't a lovers' lane; it is set apart for football and other fun, fast and furious, and we never heard even in the old days of any permits being issued to take fits or faint on that green sward. It belongs to Young Canada, and

" All things on earth and air,
Bound were by magic spell
Never to do him harm;
Even the plants and stones;
All save the Mistletoe,
The sacred Mistletoe!"

W. A. Y.

THE SUGGESTED PRISON AND JAIL REFORMS

THE suggested prison and jail reforms discussed lately in our newspapers make racy reading. In rare cases it may be wise to appeal to the soul of beauty or to reform by the use of creature comfort, but those benefitted, we fear, would in no way compensate for the expenditure necessary. When Providence molded the form and breathed life into John T. Gilmour he set the seal of a master of men upon him. He is to be admired and his ideas carefully considered; but he is a unique personality, he knows men, has studied human nature, and knows how to deal with it in its worst and best forms. So far his system is wonderful and his ship of state, with its dangerous cargo, has answered to the man at the helm. However, there is only one Warden Gilmour, and a number of prisons and jails to be "wardened." More accommodation is really needed, as there are a good many at large who would be better in a cage.

This recent talk about building sun parlors and smoking rooms

for the use of prisoners and letting them wear "store clothes" is all "tommyrot." Penal institutions are not sanatoria, neither are they solely reformatories for "first offence men," but rather places of punishment for offenders against the laws of the land, many of whom are hardened criminals with the brand of Cain on them. They fear nothing but "being caught." The awfulness of their crimes does not appal them. In all justice, let them pay the penalty. Give them plenty of stones to break and keep them road-making, work them hard and enforce cleanliness, give them plenty of good soup and bread, treat them sternly, justly, and with common sense, surely a system more in line than a solarium and cigarettes.

Then so much depends on the man who governs them. Prison birds don't give a tinker's hoot for an old Cissy who gets sentimental over them and gives them a peppermint candy with a motto on it. If the scheme of reform outlined in the articles already mentioned be carried out, Inspector Bruce Smith in the softness of his heart must change the name of prisons and jails throughout his domain to "Beulah Home." Next in order under the new regime will be (instead of the old Black Maria of faithful memory) an automobile—six-cylinder, of course—minus the imprint of the city of Toronto upon it, as it draws up in the dawn of the to-morrow to be, the ripest old villain, the hero of many convictions and the "doer" of many "terms" will sink back among the cushions and call to the chauffeur, "Home, James."

W. A. Y.

EDITORIAL NOTES.

The Use of Adrenalin Solution in the Treatment of Diphtheria. F. MEYER states in *Berlin Klin. Woch.*, June 28th, p. 1202, that diphtheritic toxemia is associated with increased activity of the suprarenal capsules and, if examined post mortem, these glands are found to be damaged. This fact, together with the progressive fall of blood pressure in fatal cases of diphtheria, led to the trial of adrenalin. The results were excellent, the pulse and respiration quickly improved after subcutaneous injections of 1 cc. of adrenalin in 19 cc. of physiological saline solution. Meyer found that this solution was the only drug capable of im-

mediately acting on the heart and preventing collapse for a number of hours.

M. Netter, a French physician, has also found adrenalin useful in severe diphtheria. He explains this happy result on two grounds. In animals, which are poisoned by diphtheria toxin, marked changes are found in the suprarenal capsules, and in severe diphtheria the blood pressure is low. It may be added that, in the heart failure of other infectious diseases, such as scarlet fever, adrenalin solution administered subcutaneously has given good results to several observers.

Hookworm Disease in the Southern States.—Dr. Stiles claims that the parasite of uncinariasis, as found in America (*Necator Americanus*), causes a severe form of anemia prevalent in Virginia, North and South Carolina, Georgia, Florida, Alabama and Texas. It is extremely prevalent in Porto Rico—less so in Cuba and Brazil. Wilson says in *Medical Diagnosis*, September, 1909, "The larvæ live in water and moist soil. There are two hypotheses as to the mode of their introduction: First, that they are ingested into the mouth in drinking water, upon uncooked vegetables, from the soiled hands of men who work and children who play in moist earth, or by clay eaters, and, second, that they penetrate the skin by way of the hair follicles, and are transported by the venous blood to the right side of the heart and the lungs, whence they pass, by way of the bronchi and trachea, to the pharynx and are then swallowed. This extraordinary observation of Looss has been confirmed by others, and Smith, of Atlanta produced uncinariasis in man by the application of mud containing the larvæ to the arm. The long-vexed question of the relation of "ground itch" to uncinariasis is thus settled." Anemia is the most striking condition observed in patients suffering from this disease. In whites the facies has been regarded as characteristic, its peculiarities consisting in a pallid, waxy color, with faint pigmentation, and a lustreless blank expression of the eyes. In children, when the disease is marked, nutrition and growth are interfered with. In advanced cases enlargement of the liver and spleen with edema occurs and the symptoms of anemia—breathlessness and palpitation upon exertion, pallor, puffiness and headache are common. The blood shows corpuscular and hemoglobin reduction, infrequent leuco-

cytosis and a moderate eosinophilia. In old cases, there is nearly always a well marked eosinophilia.

The diagnosis rests on the discovery of the ova of the *Necator Americanus* in the stools. The blotting paper test may be employed. A little of the faeces placed on white blotting paper, after an hour will show a reddish color like blood.

Thymol in doses of 30 grains, repeated in two hours, followed by a purgative is almost a specific for the relief of uncinariasis. Thymol is best given in pills or capsules.

Anesthetics in General Practice.—According to Bellamy Gardner, M.R.C.S., L.R.C.P. (*British Medical Journal*, June 5, 1909, p. 1353), the main principles in the administration of an anesthetic are: (1) To retain a weak corneal reflex, and (2) to keep the airways clear. In testing the corneal reflex he says that the anesthetist should stand behind the patient, and use only one finger with which to raise the upper eyelid and touch the cornea. The anesthetist inserts the pulp of the middle finger between the edges of the lids drawing the upper eyelid upwards, and at the same time brushing that finger pulp lightly against the centre of the cornea. When he has arrived at the upper limit of the pupil he should let go, noting by the senses of touch and sight the degree of briskness with which that upper eyelid closes. The sclerotic portion of the eyeball is weak in tactile sensibility, and is useless as a guide. As a large pupil is found, both in the second and fourth stages of anesthesia, which can only be differentiated by the activity of the corneal reflex, pupillary signs may be neglected altogether. A progressive dose of chloroform or ether having been given, until the upper eyelid is weakly active in response to corneal contact, this condition can be retained throughout by stopping the anesthetic for a few breaths to quicken its activity, or giving more anesthetic to weaken it as required. The addition of more anesthetic by the administrator should always be a guarantee to the surgeon that the patient has at that moment a demonstrable corneal reflex.

To keep the airways clear, it is necessary to know by the sounds of the breathing when they are clear. - Every expiration must be either heard or felt by the anesthetist in order to make sure that efficient breathing is going on. It is of no use to see the abdominal and thoracic movements, for they may proceed for

a considerable time after obstruction to air entry has taken place.

Dr. Gardner thinks that unrecognized obstruction to air entry is the main cause of death in anesthesia, and that the elimination of asphyxial factors in all cases is the vocation of an artist and the study of a lifetime. So subtle are some of these factors that the clinical effect first noticed is often only a secondary syncopal effect upon the heart, when the general condition is graver than it ought to have been allowed to become. Duskiness of the lips and ears shows that air is not entering the lungs in adequate amount. An anesthetist who guides himself by the sounds of breathing, putting in a small mouth prop, raising the jaw, or drawing the tongue forward, directly the sound of breathing through clear airways is replaced by that of partially obstructed respiration, prevents the onset of duskiness and its dangers.

Self-Education and Self-Control.—In *L'Education de Soi Même*, Dr. Paul Dubois, Professor of Neuro-Pathology in the University of Berne, describes the sufferings of impressionable patients in their own families. "Subject to constant variations in their state of mind, they are misunderstood, and the reproaches they receive take away the last vestige of self-control. Doubtless, a word may do them good, on occasions even a reproach, provided it be friendly. The person who is impatient and fretful suffers—he does not feel well, without being able to say what is the matter. We should regard him as a patient who needs repose or encouragement, and not as a culprit who is willingly sullen."

Much depends on a correct recognition of the cause of moroseness in a given case. The person whose woes are pictured by Dr. Dubois might be the victim of fecal toxæmia, and if this be so, his friends or relatives can do little for him. What is wanted is the physical operation of a specific medicine. A gouty man who is impatient and fretful, at one time sullen, without cause, to his nearest and dearest friends, at other times unfit for the transaction of business, becomes, after the operation of a cathartic, which, among other drugs, contains extract of colchicum, quite a different being. Every impressionable patient does not yield to this key, more's the pity, but a gouty one does.

Infant's and Invalid's Foods.—In *Bulletin*, No. 185 (Laboratory of the Inland Revenue Department, Ottawa), A. McGill, Chief Analyst, gives a report of 77 samples of infant's and invalid's foods. By comparing the analyses of products made by this department in 1898 with analyses of the same products made in 1909, it appears that, in the cases of Wemalta, Horlick's Malted Milk and Nestle's Infant Food, there is an increased percentage of sugar and soluble starch. The report says, "This is a feature, which for invalid's use gives the food an increased value."

The improvement in these foods is probably due to some changes in the process of manufacture.

The report classifies infant's and invalid's foods as follows: "If an arbitrary line be drawn between these groups at about 75 per cent. of unchanged starch, the following may be described as farinaceous foods:

Concentrated Cardinal Food.

Ridges' Food.

Robinson's Patent Barley.

Triangle Flour,

Triticumina Food.

On the other hand, the following foods contain little or no unchanged starch:

Allenburys' Milk Food No. 1.

Allenburys' Milk Food No. 2.

Horlick's Malted Milk.

Lacto-Globulin.

Mellin's Food.

Wampole's Milk Food.

The remaining foods contain varying amounts of starch from about 7 per cent. (Wyeth's Prepared Food), to 50 or 60 per cent.

Acknowledgment is made by Mr. McGill that in Bulletin 59 (1898), the fat in Horlick's Malted Milk was underestimated (2 per cent.); an improved method of fat extraction used in 1909, permits of the separation of nearly 8 per cent. fat in Horlick's Malted Milk.

J. J. C.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

TO THE MANAGING EDITOR OF THE CANADIAN JOURNAL OF MEDICINE AND SURGERY:

Dear Sir,—A perusal of the just-published announcement of the College of Physicians and Surgeons reveals an odd state of affairs. At the last meeting Doctor Hart pointed out that the Council demanded an eight months' session and yet accepted certificates of attendance from both Queen's University and The Western, which have a term of less than six months and a half.

There seems to have been a solemn silence. The President said the Registrar looked over all the certificates and, if the regulations were not complied with, the student was not allowed to take his examination.

An explanation from the Registrar would seem to have been in order, but that official evidently regarded silence as golden. The school representatives from Queen's and from Western University said nothing. The righteous Dr. Starr was dumb as an oyster—only abortionists loosen his tongue. The representative from Toronto University, as usual, was busy log-rolling. Our own Dr. Edmund E. King, he of the glad hand and genial smile, was as silent as the other Territorial Representatives.

Is the Medical Council to be a farce and a by-word? Are the Territorial Representatives so completely under the thumb of the schools, that they are lost to a sense of their duty to the profession? Why not turn these fellows out and replace them by men who have the interest of the profession at heart, or else let the Council give up its powers and let the schools run the show—they do it anyway.

IRATE PRACTITIONER.

EDITOR OF CANADIAN JOURNAL OF MEDICINE AND SURGERY:

Dear Sir,—I was greatly surprised at your article in a recent number of your journal, "What Will the Medical Council Do?" I do not know where you got your information, or who your informant was, but from whatever source it came it certainly is misleading and altogether untrue. The Medical Council of Ontario have always favored interprovincial reciprocity, and more particularly with the Western Provinces.

At the last meeting of the Council in July two delegates

were appointed to attend a meeting of representatives from the Councils of the various provinces, which meeting was held in Winnipeg in August last, and their instructions were to use every possible means to bring about interprovincial reciprocity. This meeting resulted in the calling of another meeting of delegates from the four Western Provinces at Banff last month. The Executive Committee of the Ontario Medical Council met for the purpose of appointing a representative to attend that meeting, which he did, a report of which he will present in due time. So you see it is you, Mr. Editor, who is the Rip Van Winkle and not the Ontario Medical Council.

J. L. BRAY, *Registrar*

[The editor wishes to state that the article complained of by Dr. Bray was sent in by a collaborateur.]

OUR ANCILLARY PROFESSION—DIRECTING AND CONTROLLING THE BUSINESS OF NURSING

The following letter appears in the October number of the *Buffalo Medical Journal*:

Sir,—For some years it has been apparent to many leading physicians throughout the country, that the medical profession would be obliged to exercise its right and privilege of directing and controlling the business of nursing. This necessity has become still more apparent in recent years by the baneful effects of the so-called "State Registration" movement.

Few physicians can be found who have not had unfortunate experiences with the meddlesome and prescribing nurse. The declaration of many physicians that the state registration movement tends to develop wholesale quackery, and to create a class of insubordinate nurses, with a show of legal authority to apparently justify their claim to equal privilege in directing the affairs of the sick room, is undoubtedly true. The state registration movement has also tended to place the control of nursing in the hands of a few dictatorial persons, whose desire seems to be to limit the supply of nurses to hospitals, and to so manipulate and elevate prices as to prevent the poor and the great middle classes from securing adequate nursing assistance.

The Physicians' National Board of Regents will classify and list all nurses who are willing to pledge themselves to abide by the instructions of the attending physician, and not attempt to play the role of doctor. Four classifications will be made:

1. Commissioned and Official Nurses (Those having com-

pleted a two years' course or more in a general hospital or training school.)

2. Approved Nurses. (Those having completed a two years' course in a special hospital.)

3. Attendant Nurses. (Those engaging in nursing, after having had only a theoretical or correspondence course of instruction.)

4. Provisional Nurses. (Those having been engaged in nursing for a year or more, i.e., the so-called practical nurse.)

It is intended to publish and have on file at every County Medical Society and available also to individual physicians, a national calendar of nurses, showing classification and credentials. Ample resources have been provided to insure the execution of these plans.

Respectfully,

EUGENE UNDERHILL.

PERSONALS.

The attention of our readers is called to the professional card of Dr. A. M. Rosebrugh, 76 Prince Arthur Avenue, Toronto, appearing in this and subsequent issues of *THE JOURNAL*. Dr. Rosebrugh has for years made a special study of Inebriety and its treatment, and invites correspondence from medical practitioners as to his work in this connection. Dr. Rosebrugh has been long and favorably known in Toronto, having been for years Secretary of the Ontario Society for the Reformation of Inebriates.

News of the Month.

GRADUATION EXERCISES AT GRACE HOSPITAL

THE annual graduation exercises of Grace Hospital Training School for Nurses was held in the Metropolitan Assembly Hall, which is situated across the road from the hospital itself. A large gathering of the friends of the hospital were present and enjoyed a delightful evening. The proceedings included a reception held by the Superintendent, Dr. Edith Beatty, and the Principal of the School, Miss Scott. Refreshments were served, and a dance for the younger people concluded the programme.

In the absence of Mr. E. R. Wood, chairman of the Board of Governors, who was detained at home by indisposition, Colonel Sir Henry Pellatt presided with that grace and fitness with which he is always able to perform such a duty. Lady Pellatt had also consented to present the diplomas to the members of the graduating class, and in doing so spoke a few words of congratulation and encouragement to them. Vocal solos were given during the evening by Mrs. Palmer, and one on the 'cello by Mr. Paul Hahn, all of which were very much enjoyed.

The Grace Training School at the hospital itself is conducted in a high state of efficiency. Nurses who pass through it receive a training under Miss Scott, as those did who were under her predecessor, Mrs. Currie, which is second to few.

Grace has many warm friends whose interest may always be counted upon in its behalf. The Board of Governors have under contemplation an enlargement which will be proceeded with when certain preliminary considerations have received proper attention.

The principal address of the evening was that by Dr. C. J. Hastings to the thirteen members of the graduating class. It was full of interesting information and stimulating encouragement, from which not alone the nurses might profit, but all others who were present as well. Ven. Archdeacon Cody had a seat on the platform and presented two of the prizes. In presenting to each of the graduates on behalf of the Board of Governors the usual parting gift of a \$20 gold piece, Mr. J. E. Atkinson referred briefly to the satisfaction which the board takes in the condition of the school and the hospital, and expressed the Governor's good-will and good wishes toward the nurses who, year after year, at the end of their period of training go out from the walls of the hospital to follow

a profession which is the noblest to which women may devote themselves.

After the diplomas were presented by Lady Pellatt, prizes were awarded as follows:

Vandersmissen Medal—Awarded to Miss Henderson; presented by the donor, Prof. Vandersmissen.

Wismer Medal—Awarded to Miss Pearen; presented by Dr. Palmer in the absence of the donor, Mr. J. A. Wismer.

Superintendent's prize—Two nurses received 100 marks out of a possible 100; Miss Jean Wilson and Miss Hunter, presented by Ven. Archdeacon Cody for the donor, Dr. Edith Beatty, superintendent of the hospital.

Principal's prize—Miss Bell, presented by the donor, Miss Scott, principal of the school.

Prize for neatness—Awarded to Miss McPhail; presented by Mrs. Palmer in the absence of the donor, Mrs. R. B. Hamilton.

Following are the members of the graduating class: Mary Elsie Henderson, of Rockton; Edith Rilla Snider, of Elia, Ont.; Margaret McKinnon, of Toronto; Bertha Fowlie Russell, of Georgetown; Evelyn Roberta Smith, of Perth; Elizabeth May Blackwell, of Toronto; Christina McPhail, of Sault Ste. Marie; Mabel E. Pearen, of West Toronto; Mary Edna Kate Allison, of Adolphustown; Agnes Thomson, of Toronto; Clara Edith Cunningham, of Ashburnham; Elizabeth Lillian Furlong, of Albany, N.Y.; Mina Marion Carruthers, of Avening.

THE KING EDWARD SANITARIUM

THE Province of Quebec at last is in possession of a sanitarium for the cure of tuberculosis, and about this time circulars are being sent out to the physicians of the Province calling for the recommendation of incipient cases of tuberculosis to the institution. The sanitarium building is now completely equipped for the accommodation of thirty patients, and we are able to state from personal observation that it is thoroughly up to date, and is outfitted in a first-class manner. Dr. W. E. Ainley, late of Lachine, previously of the Montreal General Hospital staff, is in charge as Medical Superintendent, and Miss Dodds, formerly of the Vermont State Sanitarium, of Saranac Lake, and previously of the Montreal General Hospital, is in general superintendence of the service of the house.

The Sanitarium has been built at a cost of about \$35,000, which, along with a considerable sum for its maintenance, has been subscribed by the citizens of the city of Quebec, with the exception of

a single subscription of one or two hundred dollars from a Montreal citizen. It is well known how heavy are the claims made upon the English-speaking population of the city of Quebec, and it is greatly to their honor that they have so nobly supported the promoters of the Sanitarium scheme. A great debt of thanks is due from the Province at large to the Hon. Richard Turner, president of the board, whose work, from the very inception of the idea until now, has been unremitting.

It may be said of the building and furnishing that every room in the Sanitarium connects with a balcony, and that in nearly every case the bed, if necessary, can be wheeled directly on to a balcony. The entire building is heated by steam, lighted by electricity, fitted with telephones, electric bells, and a complete system of fire protection and of fire escapes. In the engine-house near by are the pumps for the water supply and the dynamos for the supply of electricity. A large tract of land surrounding the building has been given by the Province of Quebec, and it is hoped that the Sanitarium will become the centre of a system of cottages, such as is in vogue at Saranac Lake. The hospital looks to the southward, over the beautiful expanse of Lake Edward, which, as is well known, is situated about one hundred miles north of Quebec, on the Quebec and Lake St. John division of the Canadian Northern Railroad.

In the Sanitarium no free patients can be admitted, and this is not that the benevolence of the founders is lacking, but that it simply cannot be done with the present resources. Every patient in the Sanitarium will receive the same food, attention and nursing, and all the rooms are counted as of the same value. No patient will be accepted who cannot pay seven dollars per week, which is about five or six dollars per week less than the actual cost of the patient. In consideration of this fact, no patient will be admitted at the minimum rate of seven dollars, unless he carries a certificate from his clergyman and his physician that he is unable to pay a higher rate, but it is hoped that patients will be admitted who can pay the twelve or thirteen dollars a week necessary for their maintenance, or even more, as an offset to the expense incurred by their fellow-inmates who are less well able to pay.

We are perfectly prepared to hear someone criticize this Sanitarium because it does not admit free patients, but if there are any such we beg to remind them that it was not their money that built the institution, and we think that it is a very generous thing that the citizens of Quebec should put at the disposal of the rest of the Province room in this splendidly furnished institution. We trust that every medical man who has an opportunity will recommend the right kind of case, because this Sanitarium is to cure incipient tuberculosis, and not in any sense to house dying consumptives. It is, therefore, necessary that great care be exercised,

and that no patient shall be sent who has not a good chance of cure. And further, it is necessary that the physician exercise his judgment so that patients, who will reap the benefit of this institution shall pay according to their ability. If these two points are carefully observed, we venture to think that the middle classes of the Province of Quebec, and especially of Montreal, will have cause abundantly to thank the open-handed citizens of Quebec for their liberality and generosity.—*Montreal Medical Journal*.

THE ROYAL EDWARD INSTITUTE

The new Royal Edward Institute for the purpose of fighting the "white plague" was opened on October 21st by King Edward pressing the button in England. The following cable was sent by Sir George Drummond to King Edward:

"May it please Your Majesty: As Chairman at the inauguration of the institute which Your Majesty has been graciously pleased to honor with your name, may I, on behalf of the donors, Lieutenant-Colonel Burland and his sisters, of the officers of the Royal Edward Institute, and of the citizens of Montreal and others here assembled, convey to Your Majesty our profound gratitude for your interest in this work for the welfare of your subjects in Montreal and the Province of Quebec. May I beg Your Majesty to honor us further by opening the doors of the institute."

According to the arrangements, King Edward was waiting in West Dean Park, Chichester, for this cablegram. When the dramatic instant arrived, the Royal Standard rose fluttering in the air, which stirred the enthusiasm of the crowd. Simultaneously the guard of honor presented arms. The guard was furnished by the Prince of Wales' Fusiliers, the regiment that was formed on the occasion of His Majesty's visit to this city when he was touring this continent as the Prince of Wales. As the doors of the institution were thrown open, the strains of the National Anthem were heard from the Prince of Wales' Band, and heads were bared in tribute to His Gracious Majesty at the other end of the cable.

Presiding at the brilliant scene was Sir Geo. Drummond, surrounded by representatives of the Federal Government, the City Council and medical authorities. The institute is largely the result of money given by Lieut.-Col. Burland of Montreal.

The circuit was connected through from Chichester to the institute in Belmont Park, Montreal, by means of automatic repeaters into one of the commercial cable companies' cables at Waterville, and then re-translated at Canso into one of the C. P. R. telegraph wires, which was continued to the institute. The dis-

tances are: Montreal to Canso, 1,045 miles; Canso to Waterville, Ireland, 2,750 miles; Waterville to Chichester, 430 miles, making a total of 4,225 miles.

As the time approached for the signal to be transmitted by the King the signal circuit was made quiet. At 4 o'clock the King closed the circuit and kept it closed until he got the return flash in acknowledgment from the institute, that by his hand was loosed the Royal Standard which to-night flutters on the roof of a building.

King Edward was delighted with the success of the ceremony in connection with the opening of the Tuberculosis Institute, and is having a memorial tablet let into the wall marking the spot where the signal for the opening of the hospital was given. His Majesty also expressed pleasure at the handsome souvenir of the occasion presented him from Montreal, and also congratulated Mr. G. G. Ward, manager of the Commercial Cable Company, on the excellence of the arrangements.

NURSES' GRADUATING CLASS AT THE HOSPITAL FOR SICK CHILDREN

THE Residence for Nurses in connection with the Hospital for Sick Children was the scene of a very pleasant gathering on October 21st, when the annual graduating exercises took place. Speech-making, congratulations, etc., were all features in the ceremonies attending the presentation of medals, diplomas and prizes of the graduating class. There was a very large attendance, and the guests were received by the trustees, the Superintendent, Miss Brent, and several of her staff.

Mr. J. Ross Robertson presided, and in an interesting address, gave an account of the work of the training school, making special reference to the recent new features of the work. He spoke of the preliminary course, the diet kitchen, the visiting nurse, the nursery maid, the gymnasium and massage departments, the alumnae, the pasteurization of milk, etc.

The number of the nurses who have graduated in the twenty-four years of the existence of the training school is 213.

The Rev. F. G. Plummer gave a most excellent and inspiring address, setting forth the ideal nurse, and his kind words will long be remembered by the class of 1909.

The medals and diplomas were presented to the graduating class by Professor McPhedran, who spoke most kindly of the work done by the nurses of the hospital.

The class is as follows: Helena Daly, Holland Landing; Martha

Monk, Toronto; Edith Joliffe, Clinton; Petron Adam, Lindsay; Kathleen MacKenzie, Petrolia; Gertrude O'Hara, Toronto; Eleanor Kerrigan, London; Catherine McLean, Maxville; Florence Phillips, Parry Sound.

Miss Brent, the Superintendent, presented the prizes. Miss Catherine McLean received the first prize for general proficiency, and Miss Gertrude O'Hara the second prize for highest marks in examination. After the presentation of prizes, the friends of the nurses, about 150, were received by Miss Brent and the Chairman. Refreshments were served in the dining-room. Afterwards the nurses had a dance, the evening drawing to a close about 12 o'clock.

DOMINION REGISTRATION

THE Committee of the Canadian Medical Association appointed by the Executive to meet Dr. Roddick, and consisting of Drs. E. P. Lachapelle and H. S. Birkett, of Montreal; R. W. Powell, of Ottawa; F. N. G. Starr, of Toronto; Jenkins, Charlottetown; Tunstall, Vancouver; Blanchard, of Winnipeg; John Stewart and G. M. Campbell, of Halifax; J. W. Daniel, M.P., and Murray MacLaren, of St. John, together with the representatives of certain of the Medical Councils of Canada—the Ontario Council being represented by Dr. Spankie, of Wolfe Island; the Quebec Council by the President, Dr. Normand, of Three Rivers, and Dr. Simard, Quebec; Nova Scotia by Dr. Sinclair, and Drs. MacLaren and Jenkins acting in the double capacity for the Canadian Medical and for the Councils of New Brunswick and Prince Edward Island respectively, met Dr. Roddick in Montreal on Tuesday, November 16th, and discussed the detail of the Canadian Medical Act of 1902. After several amendments were suggested the general principle of Dominion Registration was agreed to as a working basis for an Act. We understand that all the Councils that were not represented sent communications that seemed satisfactory to the Committee. The draft measure will be printed at an early date and copies sent to every member of every Council in Canada, when the Councils will express their opinion of the measure. It seemed to be the general feeling that the present is the time to act, and that Dominion Registration should be an accomplished fact within twelve months. It may be interesting to readers of *THE JOURNAL* to know that the following Provinces already have legislation enabling them to take advantage of the Roddick Bill as soon as it passes its third reading in the House—Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan and Alberta.

WESTERN FEDERATION

ON the invitation of the Alberta Medical Council for a meeting of delegates of the four Western Provinces—British Columbia, Alberta, Saskatchewan and Manitoba—to consider a scheme of federation of these Provinces, there met at Banff, Alta., September 28th, 1909, the following delegates, duly accredited from their respective Provincial Medical Councils, viz.:

Manitoba—Dr. J. S. Gray, Winnipeg; Dr. J. N. Hutchinson, Winnipeg; Dr. R. S. Thornton, Deloraine.

Saskatchewan—Dr. W. A. Thomson, Regina; Dr. A. MacG. Young, Saskatoon; Dr. E. A. Kelly, Swift Current.

British Columbia—Dr. W. H. Sutherland, Revelstoke; Dr. A. P. Proctor, Vancouver; Dr. A. S. Monro, Vancouver.

Alberta—Dr. R. G. Brett, Banff; Dr. G. A. Kennedy, Macleod; Dr. J. D. Lafferty, Calgary.

The sessions were held in the large hall at the Sanitarium Hotel, kindly placed at the disposal of the delegates by Dr. Brett.

At the first meeting Dr. Brett was elected Chairman and Dr. Monro Secretary.

After due deliberation and discussion the following resolutions were adopted:

RESOLUTION ONE.

Resolved, That the delegates of this convention affirm the desirability of creating a Board of the Provinces of Manitoba, Saskatchewan, Alberta and British Columbia, with duties and powers as hereinafter provided. Carried.

RESOLUTION TWO.

Resolved, That the Federated Board be composed of two members from each of the four Provinces, such members to be appointed by the respective Provincial Medical Councils and to hold office for a period of three years. Carried.

RESOLUTION THREE.

Resolved, That the Federated Board be empowered to appoint an Examining Board, in number as may appear necessary. An equal number of such Examiners to be selected from each of the four Provinces. Carried.

RESOLUTION FOUR.

Resolved, That the possession of a certificate of having passed the examination of the Federated Board shall entitle the holder to registration in any one of the four Provinces upon payment of the registration fee of that Province. Carried.

RESOLUTION FIVE.

Resolved, That the duties and powers of the Federated Board shall be:

(a) The determination and fixing the qualifications and conditions necessary for registration, including the courses of study to be pursued by students, the examinations to be undergone, and generally the requisites for registration, except as hereinafter provided. Carried unanimously.

(b) To regulate the fee for examination and collection of the same, which money shall be devoted to the payment of the necessary expenses of the Federated Board and Board of Examiners. Carried.

RESOLUTION SIX.

(a) Resolved, That any person who begins the study of medicine after the year 1912 shall possess a certificate from some university approved by the Board that he is a successful undergraduate of two years' standing or its equivalent qualification or a degree in Arts from an approved university.

(b) That the examination prescribed by the Federated Board shall call for a course of five years' study from those who graduate after 1912 and of four years from those who graduate before, of not less than six months in each year in a school of medicine approved by the Board, and it shall be a complete examination in all subjects, primary and final, specified hereafter. Such examinations to be no lower than any prescribed by any of the four Provincial Medical Boards.

(c) That the following be considered the division of subjects into primary and final, the Board to be left free to add any other not herein mentioned to either class:

PRIMARY.

Anatomy.
Physiology and Histology.
Jurisprudence and Toxicology.
Materia Medica.
Sanitary Science and Hygiene.

FINAL.

Medicine—Clinical and Theoretical.
Surgery—Clinical and Theoretical.
Pathology.
Diseases of Women.
Diseases of Children.
Therapeutics.
Obstetrics.

(d) That any registered practitioner resident in any of the

four Provinces at the time of the organization of the Federated Board shall be entitled to registration on passing before the Board of Examiners the following subjects only, viz.:

Medicine—Clinical and Theoretical.

Surgery—Clinical and Theoretical.

Pathology.

Diseases of Women.

Diseases of Children.

Therapeutics.

Obstetrics.

Provided always that his term of residence in actual practice in the prescribed area has not been less than five years, upon his presenting himself for examination.

(e) That the standard in examinations required be at least 50% in each of the primary subjects, and at least 60% in each of the final subjects. Carried.

RESOLUTION SEVEN.

Finances.—The initial expenses of the Board and Examiners shall be met by a loan or loans contributed equally from the four Provinces, said loans to be repaid out of any surplus that may subsequently accrue from the examination fees. Carried.

RESOLUTION EIGHT.

Resolved, That we record with pleasure the presence of Dr. Spankie, ex-President and member of the Ontario Medical Council, during our deliberations, and are gratified to learn that Ontario is desirous of joining in the Federation movement.

We regret that we are unable at this date to entertain this proposition, owing to the imperfect development of this undertaking, but as soon as circumstances make it possible we will consider the applications for admission from other Provinces of the Dominion to join in the Federation, and the several Provincial Councils will be notified to that effect. Carried.

RESOLUTION NINE.

Resolved, That the delegates submit these resolutions and recommendations to their respective Councils and report to the Chairman (Dr. Brett), who shall call such further meeting as may be necessary. Carried.

RESOLUTION TEN.

Resolved, That this Convention desires to record its thanks to Dr. Brett for the use of his rooms and the many courtesies extended to the members during their deliberations. Carried.

MANITOBA UNIVERSITY

CONDITIONAL upon the reorganization of the University, making it state-controlled and absolutely free from the denominational influence, the Manitoba College of Physicians and Surgeons have offered to hand over to the University, absolutely without reservation, the fine new medical college, site and equipment, valued at \$100,000. They also have a very fine and comprehensive library, which they are prepared to vest in the Province. The doctors of the city have heretofore done all the teaching in the Medical College without reimbursement.

The commission which has been investigating the university question is rent asunder with differences upon important details. The minority report, signed by Mr. Justice Cameron and Superintendent of Education McIntyre, was submitted several months ago, recommending an absolutely state-controlled university. The majority of the commission have, however, as yet been unable either to agree among themselves or to report progress. It is understood that three of them have decided upon their course, but two others, one of whom is a Roman Catholic representative, have refused to make the necessary compromises to assure a unanimous report. The whole matter is in a very unsatisfactory status, with the meeting of the Legislature, at which it should be settled, fast approaching.

MOUNT CLEMENS AN ALL-THE-YEAR-ROUND RESORT

It is a significant proof of merit, aided by widespread newspaper publicity, that the year 1907 was the most successful in the history of Mount Clemens (Mich.) Mineral Springs. This means that a greater number of persons have learned of the value of the wonderful springs that seem to be Nature's own way of curing some of the most painful of human ills. And it also indicates that Americans are learning more and more of the wonderful resources of their own country. There are no springs in Europe that rival the springs of Mount Clemens in records of healing; and there are no comforts or facilities for administering baths, caring for the sick or for adding to the pleasures of a sojourn when one is not really ill, that American enterprise has not provided equal to the most popular foreign resorts. Visitors who have tried the best that Europe has to offer are most enthusiastic about Mount Clemens, not alone for the healing powers of the springs, but for the beautiful bath-houses, the excellent hotels, and all that goes for comfort and enjoyment.

Mount Clemens is an all-the-year-round resort, and more and more people are learning that there is no better place for rest, and the most invigorating of baths, than in this Michigan town. One is really in Detroit, because there are electric cars every half-hour to the "City of the Straits." But it is surprising how little interest one takes in even a charming neighboring city when one goes to Mount Clemens. The morning at the bath, the walks in the crisp air, the ability to take long naps, which so quickly follow the baths, and then the pleasant social evening, when dancing, bridge, or other amusements while away the time, make it all too pleasant to think of the city's attractions. Now that the gripe is pulling so many down, it might be well to remember that Mount Clemens is not alone for the really suffering and helpless, but is just the place to go to regain that enthusiasm for one's daily duties which health and good spirits will ever impart. When at the Springs, the ideal hotel to put up at is the Colonial. It is open all the year, has every comfort, and is strictly up-to-date in every respect.

NEW DOCTORS

THE College of Physicians and Surgeons recently announced the results of the primary, intermediate and final examinations as follows:

Primary—J. E. Bromley, Caroline S. Brown, F. R. Chapman, John L. Campbell, I. D. Cotnam, R. D. Dewar, John Henry Downing, George D. Fripp, R. E. Gaby, J. J. Healy, R. A. Ireland, L. P. Jones, D. A. Kearns, H. C. Mabey, Victor McCormack, James F. McKee, Claude Allison Patterson, George B. Rose, R. W. Tennent, James C. Watt, C. R. Wilson, Catherine F. Woodhouse.

Intermediate—J. E. Bromley, Caroline S. Brown, John A. M. Campbell, F. W. Cays, W. G. C. Coulter, Henry Cresweller, F. R. Chapman, John de L. Campbell, J. D. Cotnam, R. D. Dewar, John H. Downing, Alexander Ferguson, R. E. Gaby, D. A. Kearns, H. H. Moore, R. W. MacIntyre, W. A. MacPherson, C. J. McBride, W. E. Ogden, T. S. Orr, R. H. Paterson, James N. Richards, R. S. Richardson, James A. Simpson, Estella O. Smith, James Thomson, C. R. Totton, W. C. Usher, F. W. Wallace, Charles B. Ward, C. C. Whittaker, L. B. Williams.

Final—J. E. Bromley, Percy G. Brown, Caroline S. Brown, F. W. Cays, W. G. G. Coulter, Henry Cresweller, Fred R. Chapman, John L. Campbell, I. D. Cotnam, R. D. Dewar, J. H. Downing, R. E. Davidson, Henry William Feldhans, H. J. Ferguson, R. E. Gaby, G. P. Howlett, Thomas J. Johnston, D. A. Kearns, H. H. Moore, W. D. McIlmoyle, R. W. MacIntyre, W. A. Macpher-

son, W. E. Ogden, T. S. Orr, R. H. Paterson, R. S. Richardson, Estella O. Smith, James Thomson, Charles R. Totton, W. C. Usher, F. W. Wallace, C. B. Ward, C. C. Whittaker, H. A. Williams.

PEDIATRICS CHANGES HANDS

It is with no little gratification that we learn that Dr. W. E. Fitch has purchased *Pediatrics* and will henceforth edit this well-known publication. Dr. Fitch has long been connected with medical journalism as editor of *Gaillard's Southern Medicine*, and he will bring to *Pediatrics* a ripe experience, both as editor and publisher. He is as graceful as well as a brilliant writer, and has contributed extensively to medical literature.

We understand that Dr. Fitch contemplates many changes in *Pediatrics*, and with a staff of collaborators which includes many of the country's foremost pediatricists, this excellent journal is certain to achieve new success in its special field. Dr. Fitch is a true Southern gentleman, and his name on the editorial page is ample assurance of the high and honorable plane on which *Pediatrics* will be conducted. If the sincere good wishes of the many friends of both *Pediatrics* and Dr. Fitch mean anything there can be no doubt of the good work that will be done in an exceedingly important branch of medicine.—From *American Medicine*, October, 1909.

BRITISH MEDICAL DIPLOMAS

EVERY year a number of Canadian medical men visit the United Kingdom with a view to obtain British Medical Diplomas. Those thinking of going to the Old Country for this purpose may with advantage write to the University Examination Postal Institution, 17, Red Lion Square, Holborn, London, England, for their 32-page pamphlet on British Medical Degrees and Diplomas. This institution prepares candidates by means of correspondence lessons, and in that way anyone residing in Canada can be assisted for his examination. It also provides oral tuition, either in class or privately, in London, Manchester, Edinburgh, and other centres. After working through a course systematically, either postal or oral, or both, the candidate can enter for his examination with confidence, knowing that he does so under the advice of thoroughly competent tutors, who understand what is required to secure success. There are thirteen

medical men on the staff of the institution, all holding high medical degrees, most of them being gold medalists of London or some other university.

THE AMERICAN GYNECOLOGICAL SOCIETY

appointed a committee to report at the next annual meeting in Washington, on the present status of obstetrical teaching in Europe and America, and to recommend improvements in the scope and character of the teaching of Obstetrics in America. The committee consists of the Professors of Obstetrics in Columbia University, University of Pennsylvania, Harvard, Jefferson Medical College, Johns Hopkins University, Cornell University, and the University of Chicago. Communications from anyone interested in the subject will be gladly received by the Chairman of the Committee, Dr. B. C. Hirst, 1821 Spruce Street, Philadelphia, Pa.

AMERICAN PUBLIC HEALTH ASSOCIATION

MILWAUKEE was chosen as the next meeting-place for the American Public Health Association at its closing session at Milwaukee, on October 22nd. Officers elected for the ensuing year include: Dr. C. O. Probst, of Columbus, Ohio, President, and Dr. C. A. Hodgetts, Toronto, First Vice-President. We offer to Dr. Hodgetts our congratulations on this well-merited honor.

The Physician's Library.

BOOK REVIEWS

The Medical Record Visiting List, or Physician's Diary for 1910.
New revised edition. New York: Wm. Wood & Co., Medical Publishers.

The Medical Record Visiting List is a regular and welcome visitor at our office. It might be well termed a *multum in parvo*, containing, besides the visiting list, an estimation of the probable duration of pregnancy, a dose table, a list of solutions for subcutaneous injections, treatment of poisoning and other emergencies, artificial respiration, signs of death, hints on the writing of wills, table of signs, etc. One most important change from last year's volume is in the list of remedies and their maximum doses in both apothecaries' and decimal systems and the indication of such as are official in the United States of America.

Leucopathies. Métastases. Albuminuries et Ictères leucopathiques.

Par le Dr. Emile Feuillié, Ancien Interne en médecine des hopitaux de Paris; Medaille des épidémies (Dunkerque, 1907); Pharmacien de 1re classe. Licencié ès Sciences physiques. Stagiaire de l'Académie de Médecine aux Eaux Minérales. Préparateur à la Faculté de Médecine. Paris: G. Steinheil, Editeur, 2, Casimir-Delavigne. 1909.

By far the most original work that has reached this desk in thirteen years. Had not Dr. Feuillié an assured position in the medical world of Paris one might take some of his statements as bizarre. Take the following conclusion: "The outcome of a leucocytic act. infiltrations, catarrhs and fibroses of organs may occur without there being a primitive lesion of the organ itself. For instance, in the kidneys (albuminuria), in the liver (jaundice), in cellular tissue (edema), in the lungs (catarrhs), in the alimentary canal (muco-membranous catarrhs), in the skin (eczema, psoriasis, etc., in the cerebro-spinal fluid (leucocytoses), in the meninges, glands, walls of the blood vessels (scleroses), in synovial membranes (pains, effusions, infiltrations).

Again: "The same leucopathy may show itself in one or several organs. After having been seated in one spot for a certain time the leucopathic localization may be transferred to another organ. This explains metastases."

Again: "Among the products of leucocytolysis the most prominent are: Albumen, uric acid (breakdown of tissue replacing an albuminuria), hydrocarbonates, leucin, tyrosin, etc."

After showing that a leucopathy exists, the author says we must likewise look for its cause—the latter is extremely variable—an intoxication, an infection acting through its toxins (tuberculosis, syphilis, etc.), heredity.

Therapy, he says, should first seek to suppress, if possible, the cause of a leucopathy; afterwards, it should aim at the renovation and consolidation of the leucocytes. Theoretically the principal agencies for accomplishing the work are: Venesection, fixation abscesses, the cautery, the seton, toxics (mercury), tonic and fortifying medicines.

The irritant agencies were much used in ancient and medieval medicine; but are not favored by the present generation of physicians. De Feuillié certainly invests them with a novel interest, by showing that the *methodus medendi* of blister, seton or cautery consists in localizing diseased leucocytes in selected parts of the body, not in repairing damaged organs.

J. J. C.

A Handbook of Medical Diagnosis. In four (4) parts. (I.) Medical Diagnosis in General; (II.) The Methods and Their Immediate Results; (III.) Symptoms and Signs; (IV.) The Clinical Applications. For the use of Practitioners and Students. By J. C. WILSON, A.M., M.D., Professor of the Practice of Medicine and Clinical Medicine in the Jefferson Medical College, and Physician to its Hospital; Physician to the Pennsylvania Hospital, Physician-in-Chief to the German Hospital, Philadelphia. 408 Text Illustrations and 14 Full Page Plates. "The whole art of medicine is in observation." Philadelphia, London and Montreal: J. B. Lippincott Company.

As the author properly remarks, "In making a work of this kind it is necessary to draw at every step upon the great fund of acquired information, which has become the common property of the profession." In other words, an internist, no matter how painstaking he may be, cannot write a book on medical diagnosis without extensive references to the works of other physicians. Dr. Wilson draws freely on his contemporaries.

The following evidences of inaccuracy have been observed in his book: (1) In the article on Mumps, under the head "Symptoms," no allusion is made to inflammation of the tonsil on the affected side. We recently treated a man of forty for mumps (right side), and found, on prying open his mouth, that the right tonsil was acutely inflamed.

In the article on neuritis of the anterior crural nerve (*vide p.* 1363), the pathology of that disease is chiefly ascribed to psoas

abscess. Injury to the nerve by compression as a cause of neuritis is dismissed with the statement that "Injury to the anterior crural nerve is rare. Fullerton reports the case of a dwarf in which pressure during labor caused transient injury to this nerve, and it may also be hurt in some forms of dislocation of the hip, but only rarely."

The reviewer knows of a case of neuritis of the left anterior crural nerve which was caused by compression of that nerve in the left inguinal canal, by the injured man holding down sticks of hardwood on a sawbuck with his raised left foot, while sawing the wood with a bucksaw. The disablement lasted for over two months. This case has not been reported in full so far. Dr. Wilson cannot, of course, go further than his own observations and the literature will allow, but he will readily admit that unreported cases, such as the one just quoted by the reviewer, must limit the authority of any work on medical or surgical diagnosis.

As, in these days of accurate diagnosis, Dr. Wilson's book must come in for extensive perusal, any criticism of it made here is only intended to add to the completeness of a second edition, which may be soon expected.

J. J. C.

Diseases of Infants and Children. By HENRY DWIGHT CHAPIN, A.M., M.D., and GODFREY ROGER PISCK, M.D. New York: William Wood & Co.

The name of Chapin is voucher sufficient to commend any work. His name has been connected with infant feeding and the child in disease and health for many years. His vast experience and careful original research has long since marked him as an authority of the highest and best order. Never prolix—always practical—this, his latest effort, is even more acceptable than anything he has published. The assistance of Dr. Pisck, a man well known as a thorough earnest worker, shows itself throughout the work, inasmuch as material has thus been collected, facts gleaned and treatment proven from the active work of two busy men. The work certainly ranks with any published, and we can heartily recommend it to the student and practitioner.

One chapter, No. X., strongly commends itself as a time-saver. It shows an enormous amount of work in compilation, being a scheme by which any prominent symptom in every part of the body is mentioned, cause given in a few words, and reference thereby made to the chapter on such particular objective or subjective symptom. The article on infant feeding is capital. If any man has mastered this complex subject Chapin is the man. The methods of making up the various mixtures are so simple, the reasons of such mixtures so clearly demonstrated, that anyone not having a vast knowledge of decimal fractions is capable of ordering suitable mix-

tures with understanding, without which failure is a certainty. Every subject is clearly and concisely put, padding is conspicuous by its absence. As he says in the preface, "Theory and pathology have only been considered in so far as may be necessary to an understanding of the diagnosis, course and treatment of the disease."

Messrs. Wm. Wood & Co. have, as usual with this house, given us a sample of their excellent work, letterpress and illustrations being excellent. The price, \$4.50, is moderate for such an excellent work.

A. B.

Lectures on Hysteria and Allied Vaso-Motor Conditions. By THOMAS DIXON SAVILL, M.D., London; Physician to the West End Hospital for Diseases of the Nervous System, Welbeck St., London, and to the St. John's Hospital for Diseases of the Skin, Leicester Square, London; formerly Medical Superintendent of the Paddington Infirmary and Workhouse; Examiner in Medicine in the University of Glasgow; Assistant Physician and Pathologist to the West End Hospital. New York: William Wood & Co. London: Henry J. Glaiser. 1909.

This is not only a sound work, in which the latest scientific facts in relation to hysteria are propounded, but it is excellently arranged and entertainingly written.

The hysterical temperament is indicated by a marked tendency to sudden flushings and pallor of the skin, by hypersensitiveness of the reflexes, by the paroxysmal character in the interruptions of the vital functions, and by emotional instability. The author believes that by the so-called stigmata of hysteria, namely suggestibility, somnambulism and alternation of mental states, are the qualities peculiar to all hysterical phenomena, rather than to their subjects; "all is caprice, instability and alternation."

Emotional instability is an inherent part of the hysterical diathesis, and constitutes the pre-disposing condition necessary for the development of hysterical symptoms; thus it follows that complex emotional states, as grief, anxiety, disappointment, surprise and anger, act as determining causes through the disturbed functioning of the great sympathetic nervous system, and find their varied expressions through the organs and structures so largely supplied by that system.

The author successfully controverts the commonly accepted view that hysterical attacks are closely related to disturbed functions of the reproductive organs; he points out that as the initial defect is centred in that nervous system which largely supplies the reproductive organs, these organs must necessarily suffer disturbed functions, and the consequent clinical manifestations will naturally attract the observer's attention and cause him to conclude that the disease is in the sexual organs themselves, rather than in the nervous centre supplying them in common with other structures.

N. H. B.

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